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CAPITATION PROJECT IN THE HAUT-SAINT-LAURENT REGIONAL COUNTY MUNICIPALITY

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A WORD FROM THE PRESIDENT EXECUTIVE DIRECTOR

This final report on the Capitation Project in the MRC du Haut Saint-Laurent sets out the major components of an innovative experiment to set up an integrated network of care and services in a rural territory in the Montérégie serving close to 25,000 inhabitants.

Within the current framework of the public health system in Quebec, the Capitation Project was designed to test a specific care and service provision model for a given population. Funded by the *Fonds pour l'adaptation des services de santé* (FASS), the project involved the development and implementation of a network of first line services. The GRIS (*Groupe de Recherche Interdisciplinaire en Santé*) was responsible for the project evaluation phase.

The changes proposed by the project have certainly contributed to improving local access to care as well as increasing the effectiveness of the system for the population by improving case management. The reader will also note that the clinical and informational integration provided interesting results; however, to achieve maximum efficiency, the financial and administrative components of the local network must also be included.

The Direction de la santé publique de la Montérégie, considers that it is extremely important to support innovative initiatives in the organization of local services for the population. The reorganization of first line services is, in fact, a regional priority and, in this perspective, this project was particularly significant.

President Executive Director,

Luc Boileau, MD, FRCPC

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LIST OF ABBREVIATIONS AND ACRONYMS

(Note : Most acronyms in French [in italics] – explanation in English)

ADT	Admission, discharge, transfer
APR-DRG	All patients refined - diagnosis related groups
CH	Hospital
CHRS	Suroît regional hospital
CHSLD	Long-term care and residential centre
CLSC	Local community services centre
CPDP	Council of Physicians, Dentists and Pharmacists
DAM	Medical affairs department
DGFSBT	General Finance, budget monitoring and information technologies department
DGPSE	General strategic planning and evaluation department
DRG	Diagnostics identified for managing
DRMG	General medicine regional department
DPS	Director, Professional Services
DSPPÉ	Public health, planning and evaluation department
HTF	Health transition fund
FMOQ	Quebec federation of general practitioners
GAP	Professional activities management
GRIS	Interdisciplinary health care research group
GTQ	Quebec telecommunication group
BMH	Barrie Memorial Hospital
MED-ECHO	Maintenance and exploitation of data for the hospital clientele study
COPD	Chronic obstructive pulmonary disease
RCM	Regional County Municipality
MSSS	Department of health and social services
PEC	Cardiology teaching program
PRIISME	Integrated information, medical follow-up and teaching programs
RAMQ	Quebec health insurance board
RRSSS-M	Montérégie regional health board
RTSS	Socio-health telecommunications network
SAM	Medical affairs secretariat
SIC	Clientele information system
SICHELD	Residential and long-term care clientele information system
SIMAD	Integrated homecare services
SISM	Mental health information system
SISMAD	Homecare support and services information system
SIURGE	Emergency management information system

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SUMMARY

The objective of the capitation project is to test a new method for delivering organized and funded health care and services to the rural population of the Haut-Saint-Laurent RCM. To achieve the desired changes, an integrated delivery system must be implemented. This project, which has the participation of all health care institutions and health centres, is in line with the reforms suggested by several experts with respect to restructuring front-line services in order to improve services to the population. The entire population of the Haut-Saint-Laurent RCM will be covered by this project, i.e. approximately 25,000 people.

Interest in this project has led to the participation of many different professionals and organizations: The executive boards and administrators of the region's health care institutions, physicians at various health centres, health care professionals, researchers of the Université de Montréal's *Groupe de recherche interdisciplinaire en santé* (GRIS) (interdisciplinary health research group), and the *Régie régionale de la santé et des services sociaux de la Montérégie* (Montérégie regional health and social services board).

The project's theoretical model comprises three individual models, ***administrative, financial and clinical***, and two components, ***informational and evaluative***. To respond to the pressing needs of the region, the interventions and work during Phase I of the project focused mainly on the clinical and informational aspects of the integrated delivery system.

The objective of this project is the clinical and functional restructuring of four priority sectors, which will ensure the viability of a local integrated delivery system, i.e. front-line ambulatory services, adults and elderly people with decreased autonomy, mental health and cardiovascular health. Accordingly, approximately twenty programs have been implemented in these sectors. The network also depends on a strong medical structure that promotes the practice of family medicine.

Ambulatory services respond to the basic needs of the local population, with adequate accessibility to these services ensured by effective coordination between health care providers and institutions. The interventions regarding adults and elderly people with decreased autonomy fall within a continuum of services aimed at better patient management. At the local level, mental health initiatives ensure a multidisciplinary practice with the services of a psychiatrist, systematic follow-up of patients and better patient management. Finally, cardiovascular initiatives will enable the population to benefit from teaching, prevention and systematic follow-up.

The project resulted in two specific changes in terms of informational integration: The creation of a computer network linking the region's institutions and health centres, and the establishment of a database integrating the main sources of data regarding the use of services by the 200,000 residents of the Montérégie region.

GRIS researchers will evaluate the project to determine the issues involved in implementing a regional integrated health care and services structure within the context of the public health system. The evaluation will cover several different aspects, including analysis of the implementation of the model planned for Phase I of the project, and analysis of the following effects: Patient satisfaction with care received and perception of quality of primary care and, for diabetic patients, satisfaction, quality of life and privately incurred costs.

In addition to collecting information throughout the evaluation, general indicators will be tracked and the project's different programs monitored. As part of the project, several documents and informational brochures were written to be distributed either to the population at large or to specific clientele.

The main results obtained are as follows:

- integration and improvement in the continuity of services through the implementation of approximately twenty pilot clinical programs following their approval by the steering committee
- standardization of care procedures and a change in practices, resulting mainly from the review and development of twenty clinical protocols
- greater complementarity among institutions in terms of service delivery
- increased recourse to systematic follow-up for certain clienteles
- integration of the region's general practitioners into the care and services structure
- development of an interdisciplinary approach for target clienteles
- integration of nurses into health centres
- establishment of an information exchange network linking the region's health centres and institutions
- increased efficiency due to the sharing of client information and rapid access to certain information
- creation of a data warehouse that includes most of the data on the use of services by the population of the Haut-Saint-Laurent RCM, and on four control CLSCs

The following elements are key in supporting the changes resulting from the implementation of a local integrated delivery system:

- physician participation in most of the committees created
- remuneration of physicians for activities related to the organization and management of clinical programs
- organization of ten training sessions to support and promote the learning of new methods of care structuring

Given the progress charted in such a short period and the instability created by such a tight schedule, these results are significant and promising. The main effects observed are a different use of the region's resources, and changes in managing the population and in its use of services. For example, preliminary data indicated:

- fewer visits to Emergency
- fewer admissions and shorter stays in Medicine
- increased referrals for homecare
- increased recourse to ambulatory services and light resources

The project's conclusions are significant. Thanks to the efforts of professionals, physicians, health care workers and administrators, it was possible to implement a local integrated delivery system that both reinforces and relies on an effective medical structure and front-line system. The capitation project suggests ways that the integrated system can structure basic services, coordinate and integrate services, and adapt organizational and professional practices, including medical practices. The hiring of nurses in health centres constitutes a success factor in the implementation of this integrated delivery system.

The operationalization and consolidation of the clinical, administrative, financial and informational integrations is complex. As health care organization and funding go hand in hand, the full potential of the model can only be realized through the coherent management of the different types of integration. The capitation project has produced significant results for the population, the health care network partners and the health care system. Nevertheless, these results could be strengthened by the addition of organizational and financial measures, notably:

- increasing the integration of medical services
- implementing a governance structure to strengthen the trial's strategic vision
- implementing the capitation trial
- consolidating the trial and conducting a multi-dimensional evaluation

The region's health care workers are all committed to continuing the trial beyond the period stipulated by the Health Transition Fund grant. While awaiting confirmation of funding for Phase II, which could include the capitation trail, the executive boards of the RCM institutions and the *Montérégie Regional Health Board* have agreed to finance the continuation of the project for a period of three months.

The stabilization of the trial will lead to savings that can be reinvested in the region, and to bringing the local integrated health care and social services system in line with the original theoretical intervention model. Given the amount of money invested in this project, notably by the institutions and their private partners, and the significant and encouraging results obtained thus far in such a short period of time, it is inconceivable that the project be terminated.

To ensure adequate functioning of the different clinics, Barrie Memorial Hospital has invested more than $384,000 in the renovation of buildings and the purchase of equipment necessary to the project. It is also important to acknowledge the participation of the region's physicians, as well as the support of personnel at the *Montérégie Regional Health Board*, various regional institutions and health centres.

INTRODUCTION

In May 1998, a grant application was submitted to the Health Transition Fund (HTF) Secretariat for a capitation project in the Haut-Saint-Laurent regional county municipality (RCM). In anticipation of a favourable outcome, the partners pursued their reflection and continued developing several aspects of the project, specifically the clinical, administrative, financial, informational and evaluative components. This work was of an exploratory nature and to date only partial.

The project, accepted by the HTF in March 1999, aims to simulate capitation funding mechanisms and offset the consequences of applying these mechanisms to services. The partners enthusiastically agreed to implement the capitation project, spread over the period from November 1, 1998 to December 31, 2000. The initial budget was $3.238 million. In March 2000, a request to extend the project was submitted to the HTF to continue the investigation until March 31, 2001. This request was accepted, with a revised budget of $3.062 million. The distribution period should end no later than June 30, 2001.

This document presents a summary of the project's operations, whose aim was to implement a new method of structuring and delivering health care and social services to the population of the RCM. After presenting a summary of the report, the first chapter briefly describes the relevance, the goals pursued and the objectives of the project. The second chapter details the primary activities initially planned and those used to date in the Haut-Saint-Laurent regional county municipality. The third chapter presents the results obtained and the impacts observed during the project. Lastly, the fourth chapter proposes components of the project results distribution plan.

To simplify the presentation of the report, a socio-health care picture is appended as well as supplemental information, including the distribution and publication plan and a list of training sessions provided under this project. The evaluation report produced by the *Interdisciplinary Health care Research Group* (GRIS) at Université de Montréal is found in Volume II of this final report.

1. RELEVANCE, GOAL PURSUED AND OBJECTIVES

As a brief overview of the capitation project, this section summarizes the relevance, the goal pursued and the objectives of this project.

1.1 Relevance

In a context of capitation, all regional institutions and organizations currently delivering health care and social services are accountable for the care and services used by their population, both inside and outside the region in question.

Accordingly, the integrated delivery system serves the entire population of the Haut-Saint-Laurent RCM, thereby differentiating it from the traditional per institution practice. This population approach integrates the notion of accountability to a population and provides the opportunity of creating illness prevention and health care promotion programs in a perspective of improving health. Shortell et al. (1993) proposed a definition of an integrated delivery system: "An integrated delivery system is a network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population, and is willing to be held clinically and physically responsible for the outcome and the health status of the population served."

The common vision of an integrated delivery system for the RCM shared by those involved in the region's health care is presented in Figure 1. This vision is based on the health needs of the population and on an effective medical structure which promotes the practice of family medicine. This representation focuses on four sectors, with front-line services serving as the entry point into the system and constituting the central core of the local structure. The three other sectors (mental health, dependent adults and elderly, and cardiovascular health) are indispensable services for a local restructuring of services in a rural setting. Also, the project's steering committee has made it possible to bring all those involved in the region to the same table (general practitioners, CLSC, CHSLD, Hospital) in order to promote the integration of front-line health care and social services.

This vision of services is in line with the recommendations and reforms undertaken in many industrialized countries. In the opinion of many experts (Leatt et al., 2000; Marriott and Mable, 1998), the reorganization of front-line services plays a key role in improving services to the population. In Quebec, recommendations from the Clair Commission on health and social services, tabled in January 2001, target the restructuring of front-line services. The creation of family medicine groups and implementation of a single governanc

1.2 Goal pursued

The capitation project fosters the implementation of an integrated delivery system with the necessary will and motivation to introduce a new method of structuring, providing and funding health care services in the rural setting of the Haut-Saint-Laurent RCM.

The challenge is to develop a service organization model funded by capitation, adapted to the Quebec and Canadian context, based on the objectives of quality, satisfaction and effectiveness as well as improving the care of the population. The capitation project aims to break down the boundaries between institutions and professionals in private offices regarding the use of resources. It enables, among others, the involvement of physicians in the organization of health care. It renews the incentive structure for physicians while enabling a potential recourse to others types of remuneration. It impels a strengthening and diversification of front-line resources. It motivates those involved to review clinical procedures and treatment strategies. This review will guarantee success in attaining better coordinated and more effective overall care by promoting the integration of services.

Accordingly, the project offers a unique opportunity to examine the dynamic of the setting in taking on the management of the local delivery system. These functions affect the operational and clinical integration of regional institutions and medical practices. It enables both the development of a care model adapted to these settings as well as examination of a form of local decentralization of health care services management in rural settings. Lastly, it will enable a change in the method of allocating resources per institution based on the needs of the population.

1.3 Objectives

The implementation of an integrated delivery model focused on front-line care and an effective medical structure targets a change contributing to an increase in local accessibility, efficiency and effectiveness of the region's health care system in a perspective of improving the care of the population.

The capitation project is based on an organizational model with the following objectives:

→ **Improve the quality of service and satisfaction:**

- provide greater accessibility to health care through the repatriation of front-line services, development of prevention and follow-up services
- treat more cases within the RCM
- ensure better horizontal and vertical coordination and continuity of care

→ **Improve the efficiency of services:**

- for the same quality, use the least expensive resource
- review the clinical and administrative procedures

→ **Improve the care of the population:**

- by sustained attention to the population's needs
- by increased communication with the population
- by improvement in health

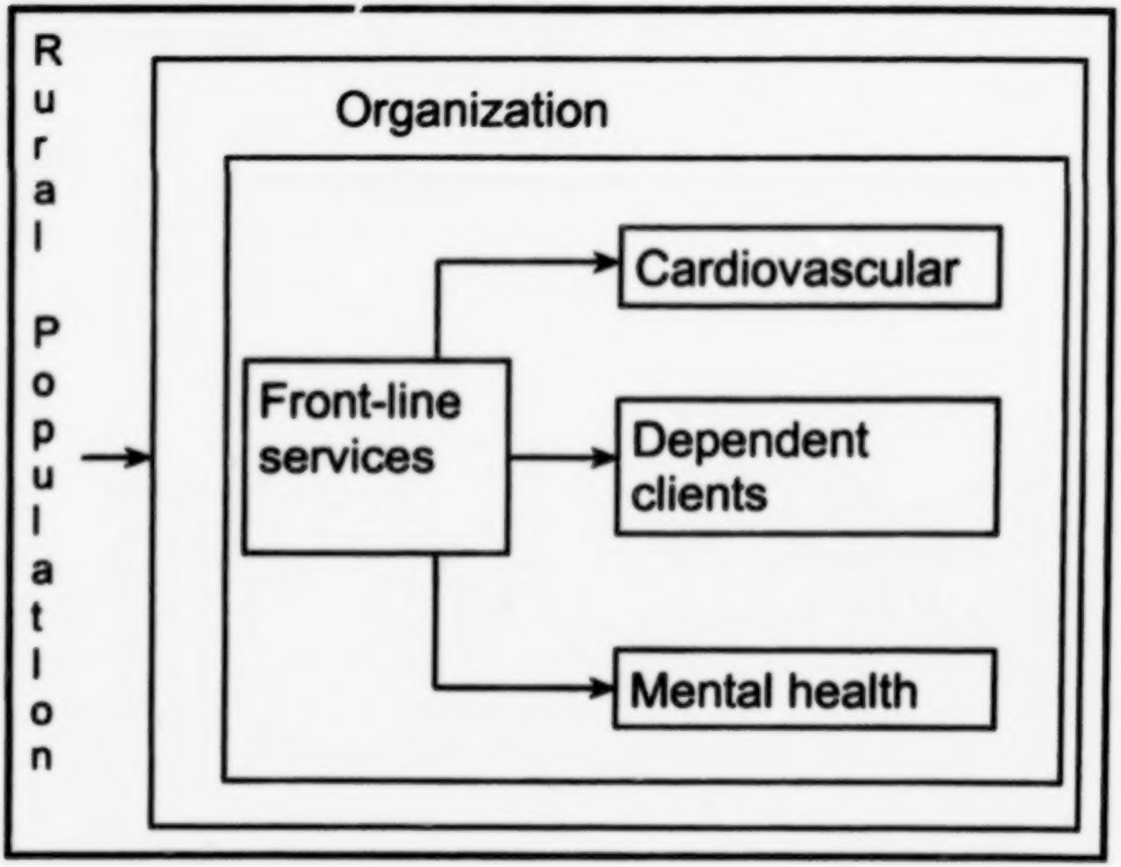

Rural Population
Organization
Front-line services
Cardiovascular
Dependent clients
Mental health

Figure 1: Integrated delivery system

2. PROJECT ACTIVITIES

This chapter comprises four sections. After indicating that the project trial could take place in two phases, the design of the theoretical intervention model is presented according to its administrative, financial and clinical models and its informational and evaluative components. The third section of the chapter presents the current position of the models and components as at January 27, 2001. This section also includes a description of the data and resources prepared under the project, as well as a list of partners and collaborators. The chapter on activities ends with a description of the variances and problems associated with the project.

2.1 Project in two phases

From the outset, it was planned that the capitation project would take place in two distinct phases. In the initial phase, up to March 31, 2001, it focused on integrating the clinical and informational models into the integrated delivery system so as to meet the region's pressing health care needs. Note that the physicians are an integral part of the project and are involved in planning services and implementing clinical projects. During this phase, a clinical information system was set up to connect health centres and health care institutions. In addition, a data warehouse on the clientele using health care and social services is under development in order to study episodes of illness and the continuity of health care and social services.

The model implemented during the first phase was based on maintaining the independence of the region's institutions and developing coordination mechanisms. Although it had been planned at the start of the project to create a single decision-making body for the region to plan and structure all the services, we were unable to complete this operation. The medical services budget remains under the responsibility of the Régie de l'assurance-maladie du Québec (RAMQ). In the absence of suggestions for adjusting payment methods from the physicians themselves, the "per act remuneration" method was respected.

In the second phase, yet to be completed, actual capitation could be contemplated. This could target all or part of the front-line and second-line services and the integration of all budgets (institutional, RAMQ, medications), with the agreement of the partners. We also plan to provide information to health care workers in the field by way of the integrated database created in Phase I. This data warehouse contains socio-health care data going back to 1997.

2.2 Design of a theoretical intervention model

The Haut-Saint-Laurent RCM has a population of 25,000 in a well-defined region. The geographical location of the RCM is such that 85-90% of medical consultations are handled by the regional front-line services (medical offices, Emergency departments, CLSC). Accordingly, it is unnecessary to list the participants or the registration of the population.

Lastly, the resources are adjusted on the basis of the socio-health care needs of the population, rather than on individual requests for health care (Marriott and Mable, 1998).

The rural setting is central to the project. In effect, the rural setting in Quebec, which is suffering from an ongoing shortage of professional resources, requires a more flexible organizational model, both for administration and clinical organization. Such is the case of this RCM and for three-quarters of all regions of Quebec.

The concepts developed in health care system trials have been used while respecting the culture of the setting: Integrated delivery system, continuity of care, coordination of reception and screening, systematic follow-up strategies for at-risk clienteles, alternative resource utilization strategies, management of care episodes and case management.

The development of an effective front-line network will enable us to keep more patients within the region and rectify the migration of the hospital clientele toward neighbouring hospitals. This objective requires a major change in the setting's culture. Initially, all involved must focus on an optimal use of front-line services. Subsequently, they must adhere to the capitation approach while working together as **a single organization** in contrast, therefore, with certain historic rivalries.

2.2.1 Models and their components

The project design is based on administrative, financial and clinical models, which represent the types of integration being sought. The project also includes an informational component for the purpose of distributing the information necessary for the integrated system to function. Lastly, the evaluative component enables assessment of this capitation project trial.

These models and components are based on the following principles:

- The population retains free access to public services as well as the free choice of health care provider
- The model is based on the integration of all health care and social services
- The funding is determined by capitation (per capita average)
- The funding integrates the various sources of public financing

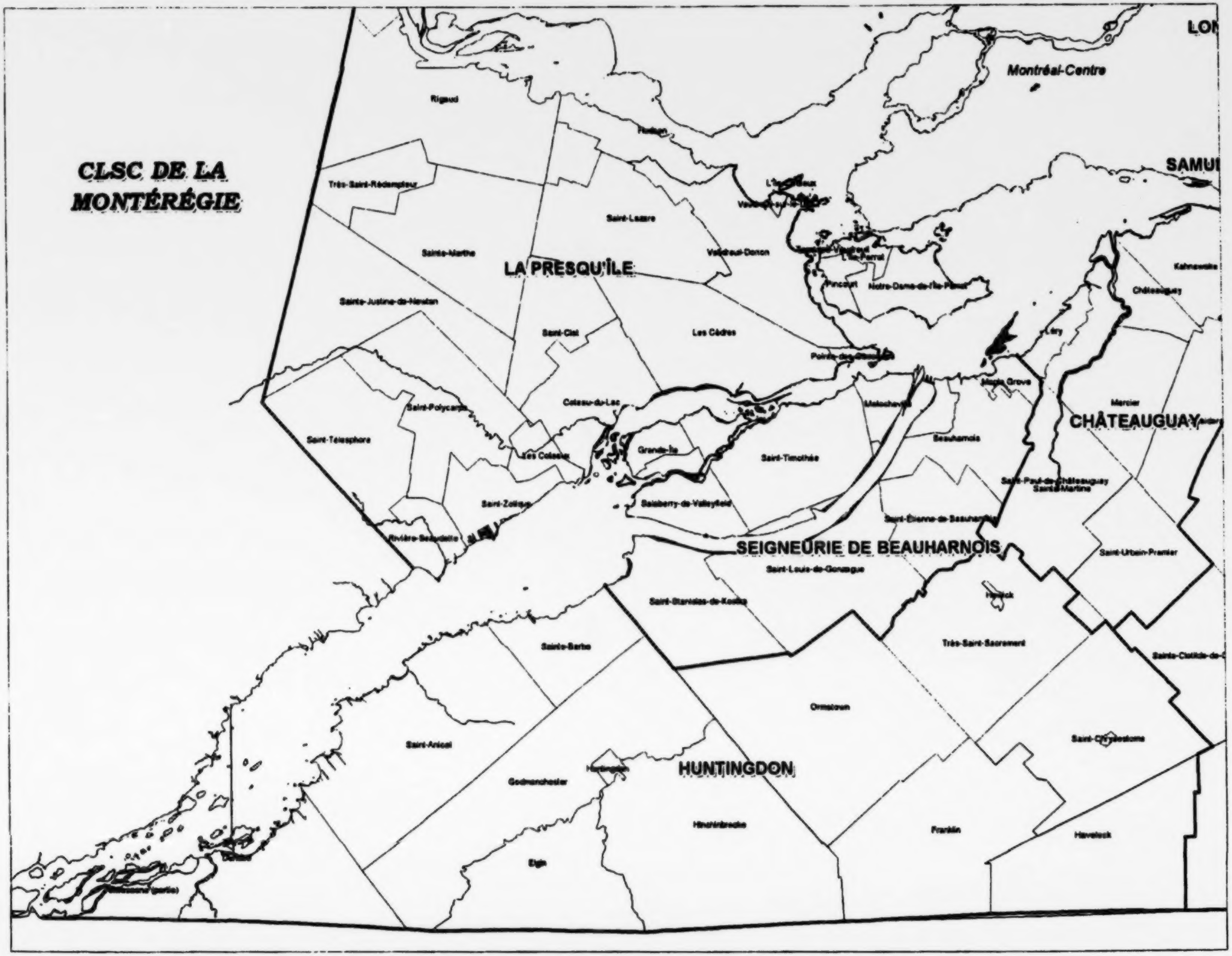
2.2.2 Administrative model

Initially, a single board of directors was anticipated to manage the project, thereby enabling a more flexible allocation of resources based on population needs, not on institutions' historical budgets. The creation of such a management unit fits in perfectly with one of the recommendations of the Clair Commission on health and social services (2001). The board of directors must ensure that the organizational plan encompasses all three missions (hospital, front-line and community services, and long-term care) and that the resources (institutions and HTF grant) are assigned to the population's service needs.

Such a board of directors must be actively involved in defending the values set out in the project. The model targets the functional integration of units delivering health care and social services. Functional integration refers to coordinating the administrative, marketing, human resources management and strategic planning functions of the system's constituent units.

This aspect of work affects the current mechanism of governance and its progress toward a form compatible with capitation, namely a *single body having administrative, financial and clinical responsibilities* which is accountable for the services to be delivered to the population and the resources used.

CLSC DE LA MONTÉRÉGIE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Sainte-Justine-de-Newton
Saint-Clet
Les Cèdres
Pincourt
Notre-Dame-de-l'Île-Perrot
L'Île-Perrot
Kahnawake
Châteauguay
Léry
Saint-Polycarpe
Coteau-du-Lac
Melocheville
Maple Grove
Mercier
CHÂTEAUGUAY
Saint-Télesphore
Les Coteaux
Grande-Île
Saint-Timothée
Beauharnois
Saint-Zotique
Salaberry-de-Valleyfield
Saint-Paul-de-Châteauguay
Sainte-Martine
Rivière-Beaudette
Saint-Étienne-de-Beauharnois
SEIGNEURIE DE BEAUHARNOIS
Saint-Louis-de-Gonzague
Saint-Urbain-Premier
Saint-Stanislas-de-Kostka
Très-Saint-Sacrement
Sainte-Clotilde-de
Sainte-Barbe
Ormstown
Saint-Anicet
Saint-Chrysostome
Godmanchester
Huntingdon
HUNTINGDON
Hinchinbrooke
Franklin
Havelock
Elgin
Dundee
Akwesasne (partie)

The legal body signs service agreements with institutions outside of the region for services not available within the RCM. The physicians participate in the project's overall management and the structure of clinical services, thus enabling them to define a remuneration method in keeping with the integrated model. The physicians are remunerated for the organization and management of clinical programs. Lastly, the Montérégie Regional Health Board assumes responsibility for controlling and supporting workers in the field during the various implementation phases. The following table summarizes the components of the administrative model.

Table 1

Administrative model

- Unified board of directors as a decision-making unit
- Board of directors accountable for resources used and services delivered
- Participation of physicians in governance
- Contracting services delivered outside of the region
- Monitoring assumed by the RRSSS-Montérégie

2.2.3 Financial model

The financial model refers to the method of funding and allocating resources on a capitation basis for the region's population.

The principles of the model are the following:

- The capitation amount is based on the provincial average per capita, adjusted for the characteristics of the population
- The per capita covers all of the public health care and social services, with the exception of provincial programs which are covered by a special agreement
- The funding integrates the various sources of public funding for the RCM (institutions' operating budgets, equipment budgets, RAMQ budgets, drug budgets)
- The size of the RAMQ budget remains stable for the RCM
- The legal entity has dual financial and clinical responsibility
- Any deficit must be reimbursed and any surplus will be invested in a reserve fund used for developing new services according to certain parameters
- Physicians are remunerated for their participation in system management and task coordination

The HTF grant is used to compensate the expected effects of operating in capitation mode, including the repatriation of clienteles who use services outside of the region, the creation of services to reduce hospitalization, the implementation of new, more effective, more efficient methods of practice, and lastly the remuneration of physicians' management and teaching activities. Actual financing in capitation mode will not be attempted in Phase 1 of this project.

Table 2

Financial model

- Financing on a capitation basis with an adjusted average per capita
- Integration of institutional budgets
- Incentive: Reimbursement by the administrative body of deficits and retention of surpluses for reinvestment
- Remuneration of physicians for management and coordination tasks

2.2.4 Clinical model

The clinical model comprises a set of activities aimed at identifying the region's health care and social service needs and raising awareness among professionals. As part of the clinical projects, clinicians try to make adjustments aimed at a practice that is more integrated, more continuous and less expensive. This method of practice is in keeping with the capitation project.

The implementation of the clinical model makes it possible to review the relevance of the range of services in the region, examine the continuum of services, review inter-institutional structuring, review the reception function, patient evaluation, treatments and follow-up. The clinical model is also used to reallocate institutions' current resources to other lighter or preventive services.

The clinical model focuses on:

- The maintenance of a range of locally available services
- The development of a single patient identification mechanism to facilitate follow-up of information across different services. This basic clinical information will be accessible from all points of service: Hospital, health centre, private office, CLSC and CHSLD. Access codes will guarantee the confidentiality of information kept in the file
- The family physician remains the patient's clinical manager. He coordinates all of the services required by the patient and ensures the most appropriate resources are used. The front-line services play an important coordination role in the goal of ensuring a continuum of care. This coordination role includes reception, evaluation, orientation and follow-up functions. The front-line services also provide clinical follow-up for services obtained outside of the RCM.
- In a perspective of multidisciplinary practice, the case manager coordinates the care and services required in mental health and those for dependent adults and elderly
- The physician maintains an independent medical practice
- The model encourages the use of the lightest resource

Table 3

Clinical model

- Physicians as "managers of care"
- Case management
- Use of the lightest resource
- Integration of clinical information
- Multidisciplinary practices
- Compliance with inter-institution care procedures

We will now look at the two central components associated with deployment of the model we have just presented—the informational and evaluative components.

2.2.5 Informational component

Four areas of work have been identified at the information systems level. The first consists in merging all available databases to provide information to the theme committees. These databases are MED-ECHO (data on hospitalized clientele), DRG (data on hospital performance—diagnostics identified for management), RAMQ (data on medical acts, drugs, orthoses and prostheses, etc.), SIC-CLSC (data on CLSC clientele) and SICHELD (data on clientele in a long-stay residential care centre).

The second area consists in creating a file on the clinical history of patients from 1997 to 2003 based on the databases mentioned above, by chronological compilation from a variety of files, all treatment periods for the same client. In this way, we can track an individual's use of health care services over a five-year period. This project is called ***data warehousing***. It will eventually enable better management of episodes of illness. This warehouse includes socio-health information on 200,000 residents in the Montérégie—those living in the RCM region (approximately 25,000) and those living in four CLSC districts (Châteauguay CLSC, La Presqu'île CLSC, Seigneurie de Beauharnois CLSC and La Pommeraie CLSC/CHSLD).

The third area consists in setting up a computer network connecting the health centres with the institutions by way of the RTSS (socio-health telecommunication network). The fourth area consists in conducting a preliminary study into an integrated information system (financial and clinical) to manage the capitation project. Mechanisms will also be developed to track clients when they receive services outside the RCM. A smart card is one of the mechanisms being contemplated.

2.2.6 Evaluative component

The project's evaluative component has been mandated to the Université de Montréal GRIS researchers.

The goal of the evaluation is to understand the issues stemming from the implementation of an integrated health care and services model on a regional basis in the context of a public health care system.

Accordingly, the evaluation will focus on various aspects of this model, including:

1. **Evaluation of the implementation**: This facet of the evaluation focuses on defining and understanding the factors that explain the difference between the theoretical model initially proposed to the HTF and the intervention model actually implemented. This analysis is particularly useful in understanding the issues associated with the trial as well as its continuation and distribution.

2. **Evaluation of the use of services**: The purpose of analyzing the use of services is in part to assess the efficiency of the integrated services organizational model implemented under the capitation project and in part to assess the retention rate of the population in the region. This involves, among others, ensuring that the intervention is followed by a reorientation in the use of health care services (e.g. an increase in the use of ambulatory services) and an increase in the use of health care services by the region's population.

3. **Evaluation of treatment costs**: This evaluation focuses less on determining a sound per capita than on evaluating the progress of treatment costs following the introduction of the local integrated delivery system. Three research questions were selected:

    - What are the costs of the new methods for managing integrated services (relationship between the quantities of services delivered and cost)?
    - To what extent does the intervention improve system productivity (relationship between the quantity of services delivered and the volume of resources used to deliver them)?
    - Does the intervention improve system performance (association between the observed effects, resources and services)?

4. **Evaluation of the quality of care**: The purpose of this analysis is to verify the impact of the new services organizational model on the quality of care. Quality is assessed at the process (coordination, continuity) and results levels. More specifically, the evaluation of results depends on the quality of front-line services, the integrated services model being used to strengthen the services.

5. **Evaluation of satisfaction of organizational personnel involved**: This evaluation focuses on the degree of satisfaction of managers, professionals and other health care workers involved with respect to the new organizational model of care implemented.

6. **Evaluation of client satisfaction**: This final facet of the evaluation focuses on assessing the degree of satisfaction of clients in various sectors (mental health, dependent adults and elderly, front-line ambulatory services and cardiovascular) regarding the health care and services received.

2.3 State of completion of the theoretical intervention model

This section presents the state of completion of the project, as at January 27, 2001. Before presenting the main activities accomplished and the work associated with the intervention model and its components, this section starts with a brief description of the applied intervention model.

2.3.1 Applied intervention model

As mentioned in the previous section, it was planned at the start of the project to create a single decision-making entity. We were unable to do this, given the issues raised by the project. A steering committee was created to manage the capitation project. Accordingly, the actual intervention model differs from the model presented to the HTF in May 1998.

The current period is a forerunner to a full integration of services in the region. During this period, management of the institutions' regular services and the implementation will complement each other.

The applied intervention model is presented in Diagram 1. It comprises two branches, the first (activities unaffected) representing management of regular services and the second, management of the implementation.

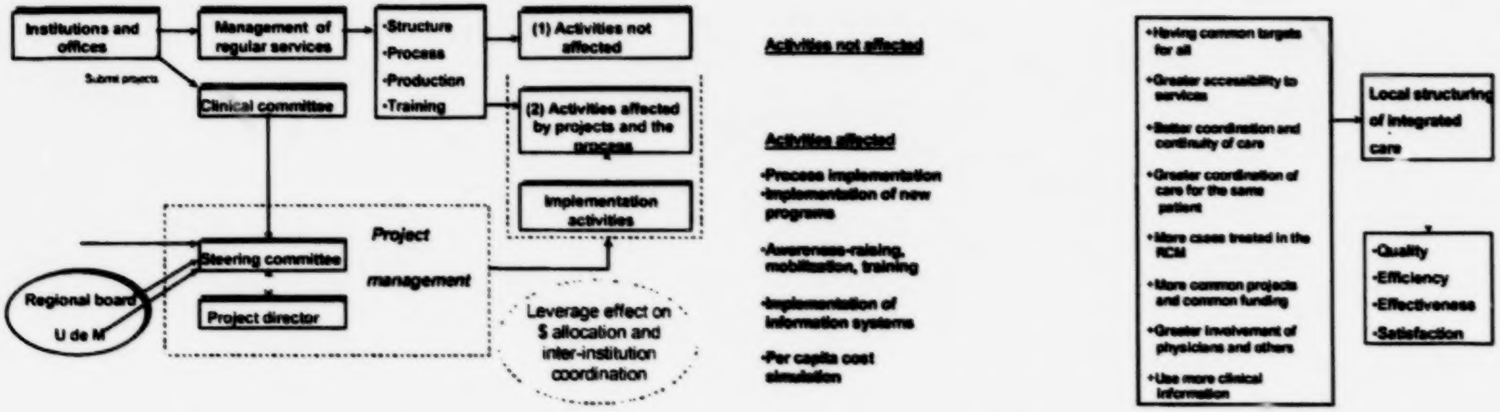

Institutions and offices
Submit projects
Management of regular services
Clinical committee
-Structure
-Process
-Production
-Training
(1) Activities not affected
(2) Activities affected by projects and the process
Implementation activities
Steering committee
Project director
Project management
Regional board
U de M
Leverage effect on $ allocation and inter-institution coordination
Activities not affected
Activities affected
-Process implementation
-Implementation of new programs
-Awareness-raising, mobilization, training
-Implementation of information systems
-Per capita cost simulation
+Having common targets for all
+Greater accessibility to services
+Better coordination and continuity of care
+Greater coordination of care for the same patient
+More cases treated in the RCM
+More common projects and common funding
+Greater involvement of physicians and others
+Use more clinical information
Local structuring of integrated care
-Quality
-Efficiency
-Effectiveness
-Satisfaction

Diagram 1: Applied intervention model

Management of regular institutional services

The executive directors continue regular management of services in their respective institutions. They integrate into current practice the clinical committee's recommendations affecting structure and clinical services. Also, they will evaluate the possibilities of combining administrative functions, by reviewing the administrative procedures and orienting personnel and executive boards toward the capitation approach. The accomplishment of an operational integration of institutions is dependent upon the institutions' directors.

The HTF funds are used only for health care activities that go beyond those currently provided by the public system. Accordingly, institutions have an input in every project. The people involved redefine the care procedures that require a new method of collaboration between institutions through projects defined in clinical sectors in the hope that these new work methods will impact the overall clinical activities in the region.

The working assumption is that the implementation of clinical capitation projects involves an integration of services between the institutions. Such integration will provide *leverage* in influencing institutional structures and work practices.

Management of the intervention implementation

The steering committee oversees the project's orientation and implementation. The project director is responsible for project implementation activities and their funding, which are approved by the steering committee. He works on implementing the projects in close collaboration with the executive directors and clinicians.

Project implementation targets four service sectors: Ambulatory, dependent adults and elderly, cardiovascular and mental health clienteles. The clinical committee, chaired by a physician and made up of various personnel from the institutions, sets project priorities to be implemented according to the needs of the population identified by the committee. Also, the information systems and the awareness, mobilization and personnel training programs comprise other areas of intervention in the capitation project.

2.3.2 Administrative model

The objective to create a single body for overall management of health care and social services is still being pursued for Haut-Saint-Laurent RCM. In awaiting the creation of this body, a steering committee was set up to manage the capitation project. The CLSC and CHSLD merged in November 2000, the region now having two boards of directors instead of three.

A **steering committee** facilitates the active participation of physicians already involved in planning and structuring the project's four clinical programs and allocates resources.

The steering committee's mandate is as follows:

- Approve clinical projects
- Decide on the allocation of resources with respect to the trial of a new service delivery system and concern for the notion that "money follows the client"
- Approve the information system's projects
- Assess the results

Other committees have worked on developing the capitation project, including a management committee, a clinical committee, which coordinates the clinical restructuring of the four sectors, and theme committees, which control the programs in each sector.

Agreement protocols have been signed with the management of the three institutions and the physicians in private practice for each of the programs funded. These are available on request.

Lastly, management mechanisms have been put in place to ensure follow-up of implementation activities in the region. These mechanisms are described and updated in the capitation project's "Management Manual" (Nguyen and Tourigny, 2000).

2.3.3 Financial model

As previously mentioned, Phase 1 of the project does not include a capitation trial. At the end of the project, the elements selected will enable us to explore a trial in funding certain services in capitation mode, including homecare services for the dependent elderly and mental health.

2.3.4 Clinical model: Partners and collaborators

The capitation project has led to the participation of many people, as can be seen in the list preceding the Table of Contents. It has stirred interest and resulted in the participation of a large number of players, specifically the executive boards of institutions in the region and their managers, health centre physicians and other health care professionals, GRIS researchers from Université de Montréal and the Montérégie Regional Health Board.

The work described in this section was accomplished as part of the clinical model aimed at developing an integrated delivery system involving the health centres, private practices, Barrie Memorial Hospital, the Huntingdon CLSC and CHSLD.

The capitation project has a specific objective to integrate the region's health care and social services, including family medicine. After reviewing the services delivered in the region, the clinical services committee prioritized the care provided into the four following sectors: Ambulatory services, dependent adults and elderly, mental health and cardiovascular. Each sector constitutes a key aspect that a local integrated services structure must take into consideration.

Based on these sectors, the physicians and others involved suggested and prioritized some twenty programs, which in their opinion will provide better management of the population. These projects also have the effect of orienting medical practice toward group practice, improving continuity of care, strengthening the physician-patient relationship, supporting the family physician based on the region's technical platform and improving synergy between family physicians and the region's health care institutions.

These programs call for a sharing of management responsibilities between partners in the local integrated services structure. Table 4 presents an overview of the programs, showing the target clientele and the division of responsibilities among the partners.

The two primary aspects in the structuring of clinical services are explained on the following pages:

- Medical structure in the region
- Description of sectors and programs in the capitation project

Table 4: Division of responsibilities among the partners

Clinical sectors/areas	Clientele	Hospital	CLSC	CHSLD	Health centres
Ambulatory services					
1. Consolidation of front-line medical services	RCM population	◆	❖	❖	❖
2. Clinical-administrative trial with multidisciplinary work in private office	Clientele diagnosed with diabetes	❖	❖	n/a	◆
3. Integration of care/services of the Diabetes Clinic		◆	❖	n/a	❖
4. Integration of care/services for clientele requiring wound care		◆	❖	n/a	❖
5. Local accessibility to Ophthalmology services	Clientele requiring evaluation and treatment	◆	❖	❖	❖
6. Systematic follow-up of clientele with chronic respiratory disorders (COPD)	Clientele with respiratory problems	❖	◆	❖	❖
7. Development of the potential of homecare services: Enhancement aspect	Clientele of the project's programs	❖	◆	n/a	❖
8. Development of potential of homecare services: Service intensification aspect	Dependent or post-hospitalization clientele	❖	◆	n/a	❖
9. Organization of services during the summer period	Clientele discharged early due to the closing of a hospital unit	❖	◆	❖	❖
Dependent adults and the elderly					
1. Integration of palliative care services	18 years and older with terminal phase cancer	❖	◆	❖	❖
2. Local accessibility to speech therapy services	Children under age 5 and adult clientele	❖	◆	❖	❖
3. Day respite La Relève	Clientele with loss of cognitive faculties	❖	❖	◆	❖
4. Integration of telemonitoring services	Physically dependent adults	◆	❖	❖	❖
Cardiovascular					
1. Cardiovascular rehabilitation: Teaching aspect	Clientele with coronary disease	◆	❖	❖	❖
2. Cardiac rehabilitation: Physical exercise aspect	Clientele with coronary disease	❖	◆	❖	❖
3. Measurement protocol and follow-up of blood pressure	Clientele with above-average blood pressure	❖	◆	❖	❖
4. Quit-smoking workshop	English-speaking clientele needing support	❖	◆	❖	❖
Mental health					
1. Consolidation of the multidisciplinary team	Clientele aged 6-100 with mental health problems	❖	◆	n/a	❖
2. Accommodation support for clientele having mental health problems	Adults with mental health problems followed by the CLSC team	❖	◆	n/a	❖
3. Intensive follow-up in the community and rehabilitation	Adults with transitory problems or persistent or serious mental health problems	❖	◆	n/a	❖

◆ Program manager ❖ Program partner

2.3.4.1 Medical structure in the Haut-Saint-Laurent RCM

This section briefly defines the medical structure in the Haut-Saint-Laurent RCM in a perspective of integrated care involving the health centres, Barrie Memorial Hospital, Huntingdon CLSC and CHSLD. The capitation project provided an opportunity for the region's physicians to take a position on the structuring method they wished to adopt following the proposed changes submitted by the various bodies in the aim of improving the management of services for the population.

This section is based in part on a document dealing with the medical structure in the region (Nguyen, Donovan, Kingsley and Morin-Blanchet, 2000). It includes the following aspects: A brief description of Quebec trends regarding the medical structure, the region's medical model and the health centre multidisciplinary work trial.

1) Quebec trends

In the opinion of many experts, the restructuring of front-line services plays a key role in improving services delivered to the population (Marriott and Mable, 1998). In Quebec, the suggestions for setting up regional general medicine departments (RGMD) targets the creation of a regional body to ensure accessibility to general medicine services and coordinate the distribution of medical services in the socio-health care region. The implementation of RGMDs in the Montérégie will involve organizational models at the local and regional levels.

In December 1999, the Collège des médecins du Québec, regarding the structuring of medical services, suggested that everyone have a family physician on whom they can rely and can keep, in addition to having access to the expertise of a specialist physician under reasonable conditions in terms of time and place when necessitated by their health condition.

To attain this objective, the following actions are necessary:

- Promote the concept of ***family physician***
- Make the family physician responsible for managing a defined clientele known to him or the group in which he is a member
- Make the specialist physician available as a resource person for an identified group of family physicians
- Enable physicians to participate in decisions regarding the implementation of practice structure models
- Evaluate the results
- Raise patients' awareness as to their personal responsibilities for their health, their illnesses and the consequences of their choice of resources

In 1995, the *Conseil médical du Québec* proposed structuring medical services in a hierarchy so as to strengthen the patient-physician relationship, further empower physicians and patients, and make front-line physicians the cornerstone of the new structure.

Lastly, the *Fédération des médecins omnipraticiens du Québec* commissioned a report on general practitioner practice in an integrated delivery system (SECOR, 1999).

This report describes a family medicine practice model that takes into account the current situation, the results of a survey among Quebec general practitioners and future changes to the structuring of general medicine services.

The report proposes family medicine groups within which the family physician should practice group family medicine, in participating in a network able to offer an extended range of services likely to meet the needs of the community in terms of general medicine services. In addition, the report suggests a trial with the proposed practice model. The voluntary participation of one or more private practices in a well-defined community where there is a CLSC and a hospital providing general and specialized services would be the preferred way to go.

Here are several components of the medical model concerning private practice:

- Point of contact for its patients with the health care and social services system
- Offer a diversified range of customized, accessible, comprehensive and continuous medical services that meet a broad range of biological, psychological and social needs
- Assure the integration of clinical information and coordination of health care, from home to hospital or residential care
- Contribute significantly to the structure of general medicine services in its community

Recently, the Clair Commission on health and social services (2001) acknowledged the priority need to restructure front-line services. Specifically, it is recommending the implementation of social, medical and front-line service networks throughout Quebec. The medical component of this network will be provided by ***family medicine groups*** comprising physicians working in a health centre or CLSC. Each family medicine group could be supported by nurses and other health care professionals.

Lastly, on February 26, 2001, the Minister for Health and Social Services announced the Department's intention to move ahead with the creation of family medicine groups. This measure represents a major advance in plans for the accessibility and continuity of medical care and services, the formula enabling every citizen to have a family physician and to be able to count on him or his colleagues at an opportune time. The methods, including those of registering clients and remunerating physicians and nurses, are still to be defined.

2) Current medical model in the Haut-Saint-Laurent RCM

A shared vision of the medical structure model in the Haut-Saint-Laurent RCM emerged throughout the process of implementing clinical projects. The RCM population is relatively well served in terms of medical services. This stems from the practice of family medicine, a tradition in the region, and also from the desire of local physicians to follow and be responsible for their patients. Some 70-75% of the population has a family physician, according to a CROP poll conducted in February 2000 as part of the GRIS evaluation project. Also, even between episodes of care, the physician-patient relationship remains present (follow-up with the patient throughout episodes of care).

Medical coverage is available during regular hours, including evenings or weekends, given that physicians cooperate with each other to provide this accessibility by using the region's technical platform. The balance in medical services coverage in the RCM is fragile and precarious, given the shortage of physicians. According to the RRSSS-Montérégie medical staffing plan, there is a 20% shortage of physicians to meet the needs of the population. Due aging of the population, the demand for services is continually on the increase.

These facts instill a certain degree of urgency with respect to ensuring future medical services. Note also that the physicians are almost all of the same age and will be retiring around the same time. This problem is also true for many other rural regional county municipalities in Quebec. The functioning of the current medical model is centered on hospitals and emergency services, including Emergency rooms, McGill University teaching programs and internships and two basically independent areas, hospital and long-term care.

The shape of the region's medical structure model is founded on its two CPDPs (Diagram 2). Such a grouping of physicians promotes dialogue between them and with the available resources so as to construct a basis for collaboration that meets the needs of the population. To this end, various means must be made available to them.

The Barrie Memorial Hospital CPDP encompasses all of the region's physicians, except those in Saint-Anicet. The physicians assume their hospital responsibilities and share the necessary information and knowledge to be able to manage the region's population (information on new services, continuing education, meetings with specialists delivering services to the population). The CPDP comprising the Huntingdon CLSC and CHSLD focuses more on chronic care, mental health care and community care.

Accordingly, it is the physicians who coordinate duty schedules in Emergency and ensure follow-up of patients during the absence of the attending physician and during the summer period. In the context of a medical structure for the RCM, these two bodies constitute mechanisms that make it possible to examine the overall needs for medical services and highlight any adjustments that may be necessary.

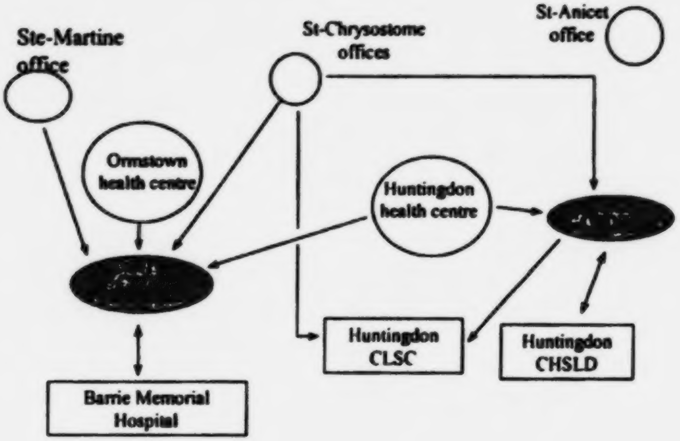


Diagram 2: Formal structure

Four medical points of services cover the entire Haut-Saint-Laurent RCM:

- Ormstown Health Centre: Seven general practitioners, two surgeons and other visiting consulting specialists
- Huntingdon Health Centre: Three physicians
- Saint-Chrysostome offices: Two physicians
- Saint-Anicet office: One physician

The physician at the Saint-Martine office is a member of Barrie Memorial Hospital's CPDP, although the town of Saint-Martine is in another RCM.

Among the medical offices, only the Huntingdon Health Centre offers a walk-in service outside regular hours. All of the offices reserve a portion of the opening hours for fast appointments for patients. These hours are also used by people needing an urgent consultation. The Barrie Memorial Hospital Emergency room serves as a walk-in clinic in the evenings, with patients being referred to attending physicians, if necessary. The duty roster is coordinated by the head of Medicine at Barrie Memorial Hospital.

With respect to CLSC services (palliative care, regular care and homecare), the Huntingdon Health Centre has an on-call physician, 24/7, to meet urgent requests from CLSC personnel.

There is also good collaboration between the CLSC and other physicians in the region. The physicians at the Huntingdon Health Centre cover the needs of the Huntingdon CHSLD, while the physicians at the Ormstown Health Centre cover those of the Ormstown long-term care facility.

The continuity of care during regular hours is provided independently by the Huntingdon and Ormstown health centres. In Saint-Chrysostome, the two physicians coordinate to provide continuous medical coverage.

As part of the capitation project, the following measures were introduced to support the medical practice:

- Support for restructuring a range of local services
- Hiring of a nurse at health centres and private offices
- Care management physicians
- Remuneration of physicians for management and teaching activities
- Implementation of a computer network linking the health centres and institutions

To attain the objectives of the capitation project, some twenty clinical projects were set up, one result of which was the consolidation of local services. These programs also serve as anchor points for targeting integration of the local health service delivery system. This had the expected results of orienting medical practice toward group practice, improving continuity of care and strengthening the physician-patient relationship, as well as enhancing synergy between family physicians and health institutions in the Haut-Saint-Laurent RCM.

One of these programs involved a clinical-administrative trial with multidisciplinary work in health centres. This trial was based on the strength of the region's medical structure and called on an expanded notion of the nurse's role regarding the needs for basic health care services.

This innovative program, in Quebec at least, which prompted the *Fédération des médecins omnipraticiens du Québec* to participate in two meetings, is in keeping with others programs in the capitation project, it being a central aspect of a local integrated services structure.

In brief, the participation of a nurse enables physicians to concentrate on specific medical tasks. The nurse is also responsible for certain follow-ups and acts as liaison with the various clinical programs set up under the capitation project. The following table describes the functions and tasks of the health centre nurse.

The following section presents this experience in greater detail.

Table 5: Duties and tasks of the health centre nurse

- Act as liaison between the health centre and the other public institutions in the region.
- Participate in the follow-up of the evolution of health problems with the partners involved in the various clinical care episodes.
- Participate, as necessary, in case discussion with all of the professionals involved.
- Inform the partners involved of the follow-up to be provided.
- Make referrals to various resources or existing programs.
- Participate in the follow-up of certain health problems in the continuity of various systematic follow-up, e.g. diabetes, COPD, etc.
- Ensure appropriate teaching.
- Make appropriate referrals and follow-up.
- Participate in updating knowledge with other members of specialized teams involved in systematic follow-ups.
- Evaluate and follow up patients with respect to specific preventive interventions.
- Teach patients according to established protocols.
- Conduct follow-up of diagnostic examinations, inform the physician of the results, inform the patient by telephone about the action to be taken.
- See patients who present without appointment and evaluate the urgency of their consultation.
- Take telephone calls from patients, acting then as a front-line resource person. As applicable, refer to the appropriate resource (e.g. Info-Santé).

3) Multidisciplinary work in the health centre and private offices

The clinical model has been enriched by the experience of nurses working in the health centre.

Patients at the Ormstown Health Centre have been receiving services from two part-time nurses (one full-time equivalent) since May 2000 and those in the Huntingdon Health Centre services from one full-time nurse since June 2000. As for the medical offices in Saint-Chrysostome, gradually since November 2000, patients have been receiving services from two nurses from the Huntingdon CLSC's regular services, which they offer at the CLSC points of services for the equivalent of three days a week.

Administrative secondment

Three types of administrative secondments were tried.

A baccalaureate nurse, on loan from the Huntingdon CLSC, was selected to work in partnership with the physicians at the Huntingdon Health Centre.

At the Ormstown Health Centre, the physicians hired two college-trained nurses, who share the work hours each week. These two nurses also have work experience at Barrie Memorial Hospital.

For the offices in Saint-Chrysostome, two nurses working in the regular health services at Huntingdon CLSC accept referrals from the physicians in the Saint-Chrysostome offices. The arrangements at the Saint-Chrysostome offices are unsuitable to enable the nurses to work on site.

Clinical work of nurses

The content and rhythm of nurses' work has evolved over time, with the knowledge and confidence having been established between physicians, nurses and patients.

At the Huntingdon Health Centre, the nurse works with three physicians who practice family medicine. At the Huntingdon Health Centre, the nurse receives all walk-in patients and most of the patients with appointments. She takes information, conducts an initial evaluation, checks vital signs and enters notes in the patient's file. Following the medical intervention, she carries out the physician's instructions and conducts follow-up and appropriate teaching on lifestyle and factors specific to the patient's illness. She then makes a referral to the appropriate CLSC services and resources, depending on the needs and medical decisions.

At the Ormstown Health Centre, there are nine physicians—seven family physicians and two surgeons—in addition to part-time specialists who practice at the health centre as consultants. The nurses receive patients referred by the physicians for interventions and follow-up appropriate to the patient's health condition. For the past several weeks, they have been seeing some patients before the physicians. At this health centre, no walk-in period has been scheduled to enable patients to be seen systematically by the nurse. The possibility of introducing such a period is currently being studied.

The nurses at the Huntingdon and Ormstown health centres provide certain follow-up to treatment, inform patients about laboratory and imaging results and give appropriate advice. They also advise patients on lifestyle, take blood pressure and give injections and vaccinations. They take telephone calls from patients.

The nurses seeing patients from the Saint-Chrysostome offices are trained by a physician in Saint-Chrysostome on how to take specimens for STD analysis. They check vital signs and provide follow-up for laboratory analyses, follow-up and teaching related to risk factors for cardiovascular disease and perform certain acts, such as syringing ears.

The nurses play an important role by acting as liaison with external resources.

Links and continuity of service

The nurses act as liaison between the institutions and public services, including regular health services, the various clinics and programs for clients with diabetes, cardiac or respiratory problems, and the homecare services. They can perform systematic follow-up and establish links with the specialized services to prepare the referral, follow up treatment and monitor the taking of medications. As needed, they contact the telemonitoring service. They provide information about community resources (resources for cancer patients, meals-on-wheels, etc.).

Training

Four of the five nurses are currently attending *physical examination* training at the Université du Québec à Trois-Rivières. This training is also taken by the hospital's ER nurses and CLSC nurses, specifically those providing homecare and regular services, as well as those in the other programs of the project.

In addition to enriching tasks, such as an increase in delegated acts (e.g. examination and syringing ears), this training provides an opportunity to bring nurses from various institutions closer together and, thereby, facilitate a better quality and continuity of services, which is also true between episodes of care. This observation has moreover been noted by the nurses who participate in the training.

The nurses at the Ormstown Health Centre, on an invitation from the Huntingdon CLSC program coordinator, will spend several days observing the services offered by the CLSC and the COPD clinic in order to find out about these services and the training given to patients. This visit will enrich their knowledge of the content of these resources to which they refer patients.

Standardization and follow-up of various practice models

Six meetings, one per month, have taken place with the three nurses since September 2000. The nurses from Saint-Chrysostome were present at the February 2001 meeting. The CLSC program coordinator, the CHSLD Director of Nursing and the Hospital's Director of Nursing participated in more than half of the meetings. Two members of the regional health board's support team—a research agent and a consulting physician—participated in four of these meetings.

The goal of these meetings was to standardize work methods, discuss various approaches, tasks and difficulties, and provide an opportunity to prepare new elements for inclusion in their work. The discussions also focused on the professional development of their clinical work. They discussed the use of care protocols for following certain chronic pathologies, which will be determined in collaboration with the physicians. These meetings also helped improve the tool used to compile clinical data.

The role of nurses appears an interesting method for including certain effective preventive interventions into a medical office.

Assessment

Overall, this task raised considerable interest among nurses during its development, because of the rich and enhancing clinical content.

The physicians appreciate the work done by the nurses. They are highly satisfied and wish to retain them. The physicians see their workload eased, thereby enabling them to focus primarily on medical evaluation and treating patients. They always agree to see any new patients residing in the RCM. It could be worth asking, although the data may be difficult to obtain, whether there is a relationship between the work done by nurses in the health centre and the number of new patients the physicians agree to manage.

As for the patients, they appreciate the nurses' role in the health centre and in private offices because they are available and act as intermediary with external resources. For some patients, being able to see a nurse cuts the waiting time before being seen in consultation.

There cannot be too much emphasis placed on the value of the professional, human experience unaffected by a technocratic approach to promote a change of mentality and the development of enriched professional tasks.

Analyses completed

The data available for the March 2001 analysis come from the Ormstown and Huntingdon health centres and cover the following periods: 1) Huntingdon Health Centre: August 31, 2000 to February 8, 2001 (part of period 6, periods 7-11 and part of period 12); and 2) Ormstown Health Centre: October 10, 2000 to January 26, 2001 (periods 8 to 11 inclusive). The data collected deal primarily with the following aspects: Number of clients, length of intervention, intervention method, place of intervention, language spoken with the client, client follow-up, reason for intervention and intervention acts. Note that the nurses fill out a form used in the CLSC.

These data are the first collected and suggest several trends. They are presented here for the purpose of describing the nurses' professional activities, but cannot, however, reflect the effect of the practices on patients' health. They show the type and evolution of the tasks, the links between resources and the reasons for patients', nurses' and physicians' satisfaction. Gradually, as the work and meetings progressed, data collection became more standardized between the health centres.

Although an initial analysis may suggest differences in nursing practices in the two health centres, a subsequent analysis following this standardization remains to be done before confirming such differences.

Some data: Number of clients, length of visits, etc.

Since September 1, 2000, the nurses at the Huntingdon and Ormstown health centres have seen 3,715 clients, with a total of 4,133 interventions listed and 6,568 acts performed. The number of clients seen by a nurse varies for the two health centres. A higher number of clients per day was shown for both Huntingdon and Ormstown, on average 30 per day in Huntingdon and 17 in Ormstown.

The average length of intervention was the same at both centres, about 7 minutes per client. The frequency distribution of average duration indicates that the vast majority of interventions (more than 93%) took less than 10 minutes. Approximately 5% of visits lasted 11-20 minutes, while some 1% of visits took longer than 20 minutes.

Differences in the method and place of intervention were noted for both health centres. Whereas the place of intervention refers to where the nursing care was provided (health centre, at home), the intervention method may take on two aspects: Presence of the client in the health centre or intervention by telephone. With respect to the place of intervention, the near totality took place at the health centre, although 2% of Ormstown interventions took place in the home. Regarding the intervention method, 53% of Ormstown clients received telephone assistance from the nurse, compared with 7% in Huntingdon.

The data analysis indicates a difference in the language spoken with clients for the two centres. For the region overall, 64% of clients receiving care from our nurses were French-speaking, this proportion being 73.3% in Huntingdon, compared with 43.5% in Ormstown. The majority of the Ormstown clientele is English-speaking (54.1%).

On occasion, the nurses' interventions required follow-up by them or by the attending physician. In Ormstown, 14.3% of clients required follow-up by the nurse compared with 27.2% in Huntingdon, whereas 7.9% of clients required follow-up by their physician in Ormstown, compared with 8.9% in Huntingdon. Also, 2% of health centre clients were referred to institutions in the region. Lastly, a fairly high percentage of client interventions needed no specific follow-up—for period 11, this percentage was 62.9% for Ormstown and 57.2% for Huntingdon.

To lighten the text, several data on the reasons for interventions and the acts performed by the nurses are presented in Appendix 2.

2.3.4.2 Description of sectors and clinical programs

This section provides an assessment of the progress made by the various programs grouped according to clinical sector, as at January 27, 2001. Various information sources have been used to describe the sectors and the programs, including program forms, framework protocol agreements and information received from program managers in fall 2000 and winter 2001.

➢ Ambulatory services

Nine programs classed as priority by regional health care workers were selected as part of the ambulatory services clinical sector. These programs were included in the desire to try out an organizational method that would help remedy the shortage of resources in the region, particularly of physicians. For example, the clinical-administrative trial with multidisciplinary work in a private office contributed, thanks to the availability of a nurse in the health centre, to developing a new complementarity between the basic medical services provided in private practice and in the region's public health care institutions and the programs set up under the capitation project, and also to increase the availability of physicians in order to reach clients who would be treated outside of the region due to the lack of local resources.

This trial with multidisciplinary work in a health centre is a novel, innovative program in Quebec. Those involved have been very interested in this trial which could be exported to the rest of the region covered by the Montérégie Regional Health Board.

The programs developed in this clinical sector are also included in the current direction of service structuring placing the accent on the primacy of front-line care, leading to an alignment in the use of services favouring light, preventive resources. Such a direction should lead, among others, toward a reduction in the use of Emergency services and an increase in the recourse to ambulatory services (e.g. increase in homecare). The preliminary results of the capitation project point in this direction.

The attainment of these results requires nonetheless significant changes for the region's health care workers. These preliminary results are based on changes in the structuring of basic services, improved coordination and integration of services, and adaptation of organizational and professional practices, including medical practices. From there, the various programs in the ambulatory services clinical sector focus, among others, on a review of traditional methods, a review of care protocols, the application of standardized clinical procedures by health professionals, and stronger clinical coordination of services through, for example, systematic follow-up of clienteles.

We will briefly review the various programs headed by the ambulatory services clinical sector. These programs are intended to orient organizational and professional practices toward group practice, improve continuity of care, strengthen the physician-patient relationship, develop family medicine based on the region's technical platform and increase synergy between family physicians and health care institutions in the Haut-Saint-Laurent RCM. In an effort to sustain and promote synergy between the programs, the capitation project has enabled the creation of a clinical information system linking physicians' offices and health institutions.

1. Consolidation of front-line medical services

To maintain accessibility to basic medical services, contribute to increasing the rate of retention and plan for future medical resources in the Haut-Saint-Laurent RCM, this program's goal is to add three general practitioners. As at January 27, 2001, one physician had been recruited. The failure to attain the objective can be explained, in part at least, by the shortage of physicians and the remuneration policy for these professionals. Recruiting efforts are continuing. The clinical-administrative trial program with multidisciplinary work in a private office should stir interest among professionals and facilitate this recruiting.

2. Clinical-administrative trial with multidisciplinary work in a private office

The clinical-administrative trial program with multidisciplinary work in a private office relies on the strengths of the region's medical structure (solid physician-patient relationship, group family medicine practice, role of the physician as a key player, collaboration between regional institutions) and calls on the enriched notion of the role of nurses with respect to basic health care services. This innovative program, in Quebec at least, which motivated the *Fédération des médecins omnipraticiens du Québec* to participate in two meetings on the medical structure, is in line with the complementarity of other programs in the capitation project, since it constitutes the central aspect of a local integrated services structure.

Three clinical models have been set up in the region—a different model for each health centre. In one model, two part-time nurses report to the health centre (start May 2000); in the other, one full-time nurse has been the subject of a service agreement with the CLSC (start June 2000). In the third model, two part-time nurses have been located at the CLSC point of service (start November 2000). These models are evolving at different rates, but are on line for meeting the program objectives. Since the nurses began work in the health centres, there has been a reduction in Emergency traffic at Barrie Memorial Hospital.

Also, in order to consolidate the benefits of this program for the clientele and particularly the expected synergy with other programs in the capitation project, program managers have made the following suggestions:

- Review with physicians the existing institution protocols to determine whether they can be applied to the health centres
- Clarify the task of following up patients treated in Emergency or who have been hospitalized, which could be done in health centres
- Consolidate the liaisons between the health centres and the integrated delivery system programs
- Emphasize systematic follow-up of patients suffering from chronic illnesses

3. Integration of care and services for diabetic clients

This program is one of the first to provide care and services under the capitation project. Thanks to a joint multidisciplinary team (Hospital-CLSC), it consists in providing outpatient services for the systematic follow-up, teaching and treatment of clients diagnosed with diabetes.

The three-day teaching session is generally provided monthly to 16 clients, in both English and French. Some 360 patients have registered for this program since May 1998. The teaching is followed by a home visit for the purpose of ensuring the knowledge has been retained.

This program imposes changes in practice, specifically for physicians, since systematic client follow-up is done primarily in the Diabetes Clinic. This program, in addition to promoting optimal control of diabetes, contributes to reducing acute and chronic complications, thereby avoiding and reducing hospitalizations.

The program manager recently made some suggestions to maximize the benefits of the Diabetes Clinic, including consolidating the links between the Diabetes Clinic, health care institutions and health centres, reviewing the content of teaching in light of the experience to date (specificities for clients aged 70 and over), integrating a physical activities aspect in complementarity with other programs of the capitation project (e.g. COPD) and integrating telemedicine for monitoring patients.

4. Integration of care and services for clients requiring wound care

This program enables clients to obtain wound care services and thus contribute to reducing the demand for Emergency services and improve continuity of services with homecare. Although initially it had been planned to serve ambulatory clients (people able to travel and receive outpatient services), other clienteles are currently receiving care (chronic wounds, complicated surgical wounds, burns). In the first year of operation, the program met its target of 904 visits.

However, because of the shortage of nursing care in this program (available two days a week, instead of the scheduled three), the objective may not be reached this year. This situation is also due to a slight increase in the waiting list and some delay in drafting protocols.

Suggestions to improve this program, particularly through the consolidation of the expertise in nursing care for accepting these clients for treatment, include increasing the nurses' hours to three days per week, continuing drafting protocols, completing the training of an additional nurse and studying the relevance of subsidizing certain skin substitutes, such as those which provide good cost-effectiveness.

5. Local accessibility to ophthalmology services

This program consists in making specialized ophthalmology services available to clients who otherwise would have to travel to other hospitals. Following the purchase of equipment and remodeling of offices in summer 2000, the clinic opened its doors on November 2, 2000. Two ophthalmologists have been recruited to work in the clinic and a third will be joining the team shortly.

The clinic, currently open one day per week, will increase to two days a week as soon as the numbers justify. Approximately forty clients can receive services during one clinic session. There is close collaboration with the Diabetes Clinic, with clients of the diabetes program also seen at the Ophthalmology Clinic. The program's primary objective of giving patients quicker access to local ophthalmology services has been accomplished. The surgery portion of the program should be starting shortly.

6. Systematic follow-up of clients with chronic respiratory problems

This program proposes to develop a systematic follow-up intervention by way of a joint Hospital-CLSC-CHSLD-Health Centre protocol for clients with chronic respiratory problems (asthma, chronic lung disease, chronic bronchitis), regardless of the service setting. This requires offering this clientele greater accessibility and continuity of services in a context of an alternative to hospitalization and to have recourse to the Hospital's Emergency department, while complementing the various partners' services and interventions.

This program comprises an interdisciplinary approach involving respiratory therapy nursing care provided in a hospital setting (teaching, patient evaluation by the nurse) and at home (continuation and reinforcement of teaching, follow-up of oxygen therapy by the respiratory technician and nurse, needs evaluation, clinical monitoring).

This program is dependent on changes in practice between the region's institutions and health centres, such that these relationships should evolve toward sharing the management of these clients. However, the CLSC is piloting the program, given the nature of the project and the fact that the home interventions are provided by CLSC personnel.

In addition to providing systematic client follow-up, this program targets other objectives including ensuring that the teaching program promotes the client's independence, thereby reducing the number of visits to Emergency and cutting the length and frequency of hospitalizations. The program started operations in April 2000 and the plan was to see 214 clients by March 31, 2001. As at January 7, 2001, 78 patients had registered for the program. The variance between the planned and actual number of patients can be explained, in part, by a recruiting problem and the availability of the respiratory technician (three days/week instead of the scheduled five) and by a possible overestimation of the potential number of patients.

The program manager has suggested, in the aim of maximizing benefits, that a multi-institution team be formed to discuss cases and extend the scope of this program to include clients with cardiorespiratory problems.

7. Developing the potential of homecare services

The project consists in enhancing the provision of homecare services by the Huntingdon CLSC. Care and services have been provided under the program since January 2000, which comprises two aspects: "Enhancement of services" and "intensification of services." The enhancement of services focuses specifically on users receiving services from programs implemented under the integrated delivery system (diabetes, wound care, COPD). These projects have an incidence on the demand for homecare services.

The intensification of homecare services consists in giving a direct allocation to people with a major loss of independence, in convalescence or in a crisis situation to enable them to remain at home despite the scale of the needs.

The success of the program to develop the potential of homecare services, at least as expressed in terms of additional clients, depends on attaining the projected goals: *Ensure sustained* communication of the CLSC services available regarding homecare services, improve liaison mechanisms, the waiting time for admission into the program and information on the CLSC capacities, increase the number of post-hospitalization clients receiving homecare services and cut the waiting time for admission to the program.

For the enhancement of services aspect, 979 clients received services between April 1, 2000 and January 27, 2001, compared with 820 clients for the same period in the previous year. A further 22 clients received services as part of the intensification of services aspect.

To consolidate the spin-offs of the program, it is important that the liaison and information actions with the CLSC continue, including the use of liaison functions of nursing personnel in the clinical-administrative trial with multidisciplinary work in a private office and the liaison agent at the hospital. The program manager also suggests setting up multi-institution teams to discuss cases.

8. Services organization program in the RCM during the summer period

With the closure of ten short-term beds in Geriatrics and Rehabilitation at Barrie Memorial Hospital for ten weeks, the personnel used the occasion to organize the management of clients using less expensive resources than hospitalization.

This program consists in offering additional homecare services to people with serious conditions who will be discharged from hospital. This additional clientele for the CLSC had been estimated at 100-150 clients, whereas it was actually 55, given the good collaboration between institutions.

➤ Dependent adults and the elderly

The Haut-Saint-Laurent RCM population is expanding less rapidly than that of the Montérégie. According to forecasts from 1991 to 2001, the increase in the RCM is 2.9% compared with 13.6% for the Montérégie. Also, the RCM population is aging. For the same period, there was a 37.4% increases in the proportion of people aged 75 and over.

In line with provincial and Canadian orientations, the goal in this sector focuses on maintaining the social integration of dependent adults and elderly. Although the number of long-term beds (2.5 hours and more of care per day) is relatively sufficient for the region, the needs for homecare are on the increase as are the alternative services.

In a context of an integrated delivery system and in order to meet the needs identified in the region, four programs have been selected: Integration of palliative care services, local accessibility to speech therapy services, *La Relève* day respite and the integration of telemonitoring services. The preliminary results obtained are in line with the objectives set.

Also, the introduction of a new case management method for the elderly with significant loss of autonomy has been postponed to a subsequent phase.

1. Integration of palliative care services

This program consists in integrating homecare services, the palliative care beds and bereavement support. The Haut-Saint-Laurent RCM integrated delivery system enables patients, depending on their wishes, to die at home. The implementation of this program has required the integration and coordination of all partners in the region thanks, among others, to the adoption (in spring 2000) and use of standardized medical-nursing protocols. One of the special points of the program consists in harmonizing the philosophy, work methods, values and beliefs of all those involved in palliative care. For physicians, it also means different management for clients—at home, not in an institutional *setting*.

The changes brought about by this program have repercussions on the attainment of fixed objectives, with some being more easily attainable than others. Accordingly, although the objective to promote better access to palliative care services at home through increasing the hours of homecare services during the final days of life was attained (6 clients have received the service in the region since February 2000), the objective to allocate a number of beds for palliative care is to be revised. Initially, although it was planned to reserve and budget for four beds at Huntingdon CHSLD, the number could now be revised downward. The integration and coordination efforts are continuing and target, among others, the repatriation of clients being followed outside of the region.

2. Local accessibility to speech therapy services

This program pursues several objectives, including the repatriation of clientele to the region, better accessibility and availability of the speech therapy service in French and in English, both at the CLSC and Barrie Memorial Hospital, as well as at the Huntingdon CHSLD. Several clienteles are also targeted, including the 0-5-year-old age group, presenting with speech problems, as well as adult clients with loss of autonomy, admitted or registered in a program at one of the three institutions. The speech therapist hired in May 2000 invested her efforts in preparing and providing activities and programming for the various clienteles.

However, as at January 27, 2001, attainment of the various objectives has been compromised with the departure of the speech therapist (in September 2000). The difficulty in recruiting a speech therapist can be explained primarily by the shortage of professionals and the uncertainty regarding the continuity of the trial. The program manager recently suggested that an integrated rehabilitation services program, including speech therapy, be included in a subsequent phase of the project.

3. Day respite service: La Relève

La Relève is a new respite resource for natural caregivers supporting a loved one with health care problems of a cognitive nature such as Alzheimer's. Located in a private residence, the resource offers a quality of life that approaches the client's lifestyle, both in respect to environment and activities. Since September 25, 2000, this program has contributed to delaying the institutionalization of elderly people living at home, maintaining the integration of these individuals as well as supporting natural caregivers looking after a parent or an aging friend at home. As at January 27, 2001, nine clients had received services from this program. To consolidate the benefits, the program manager had suggested primarily reviewing the organization of adapted transportation to increase accessibility to the service.

4. Integration of telemonitoring services

Telemonitoring services (Lifeline program) help extend home care, delay institutionalization and reduce visits to Emergency as well as hospitalizations. As at January 27, 2001, 153 adult clients with loss of physical autonomy, out of the 200 targeted, had received this service (including 109 residents of the region). However, attainment of the planned number of clients may prove impossible because of the private component of funding for this service (registration costs and annual cost of telemonitoring). Also, one aspect of this program is to list the region's various monitoring services concerning home care to see how they complement one another, and to propose an integration project aimed at coordinating them. The implementation of this coordination project is still to be done and is one of the suggestions advanced by the program manager.

➢ Mental health

The population of the *Haut-Saint-Laurent RCM receives an allocation for* the mental health program representing 38% of the average funding for the province of Quebec ($38 per person compared with $105). Accordingly, it is not surprising that the personnel involved report a lack of funding to create and develop new services. The second-line services are provided outside of the Haut-Saint-Laurent RCM, in the city of Valleyfield located in Salaberry RCM, where several services are concentrated, including an adult outpatient clinic and a day centre.

The services available in the RCM include a mental health program offered by Huntingdon CLSC, an assistance service and peer self-help provided by a community organization (*Ancres et Ailes du Haut-Saint-Laurent*), access to physicians in private practice as well, as necessary, Barrie Memorial Hospital, although this hospital does not have a psychiatric unit.

In a context where clients have low mobility, sometimes because of inadequate funds to pay for transportation, the members of the mental health committee have given priority to the creation of three programs contributing to keeping people with mental health disorders in their natural setting—consolidation of the CLSC multidisciplinary team, creation of an accommodation support and implementation of an intensive community follow-up and rehabilitation program. The choice of these front-line programs is also part of the desire to meet basic needs and enrich the range of programs provided in French and in English for this clientele.

The preliminary results in this clinical sector are in keeping with the hopes at the time of planning the services—some consolidation of the multidisciplinary mental health team at Huntingdon CLSC and two other programs well on the way to implementation.

1. Consolidation of the multidisciplinary team

A mental health program offered by Huntingdon CLSC provides psychotherapy services to a clientele aged 6 and over. However, this multidisciplinary team, which includes a psychiatrist, a general practitioner, a psychologist, human relations agents, a nurse and an occupational therapist, can be destabilized by the departure of professionals, as was specifically the case in March 1999 when the psychiatrist resigned from the team. The shortage of psychiatrists in Quebec explains in part the difficulty in recruiting and retaining psychiatrists.

To boost the evaluation, psychotherapeutic and pharmacological treatment and follow-up services, the program for consolidating the multidisciplinary team has enabled the hiring of a psychiatrist (one or two days per month) to act as consultant and instructor for the team.

As at January 27, 2001, the expected results had helped avoid hospitalizations and treat patients presenting with complex problems, including the treatment or referral of 114 new clients (out of 134 forecast for March 31, 2001) and discussion by the multidisciplinary team of approximately 20 cases every month.

The program manager's recent suggestions for better alignment with expected results included increasing the hours allotted by the psychiatrist to the program and a move toward youth centres, the Suroît region youth mental health program and the SRSO (southwest rehabilitation services).

2. Creation of an accommodation support for clientele with mental health disorders residing in the Haut-Saint-Laurent RCM

Before implementing the capitation project, there were no family-type resources for adults aged 18-65 in the Haut-Saint-Laurent RCM. This program, which is characterized by a partnership with the private sector (family-type resources), aims at attaining the following objectives: Maintain the clientele in their social setting and prevent hospitalization, ensure continuity in the treatment of clients with mental health disorders and offer activities to the residential clients so they can help themselves and facilitate social integration. The operationalization of the program includes the provision of training to people in charge of family residences to familiarize them with the clientele as well as the creation of mechanisms for managing places.

As at January 27, 2001, one of the three places planned was available for accommodation and four clients benefited from this resource for about 15 days. The efforts continue to increase the number of places, as for example a request for funding filed recently with the Montérégie Regional Health Board for the addition of two transition beds.

3. Implementation of an intensive follow-up program in the community and rehabilitation for residents in the Haut-Saint-Laurent RCM with mental health problems

Since May 2000, twenty-five French-speaking and English-speaking clients with severe, persistent mental health problems who were living in the community registered for this intensive follow-up program. Thanks to follow-up by a team of professionals, this program helps simplify integration and maintains clients in their social setting and, where possible, their work setting. The implementation of intensive follow-up requires the collaboration and coordination of several partners both in the public (Huntingdon CLSC, Barrie Memorial Hospital) and community sectors (*Ancres et Ailes du Haut-Saint-Laurent*) as well as the physicians working in the clinic.

The program imposes changes in practice with the amalgamation of settings, cultures and work methods. However, there still remains work to be done to harmonize rehabilitation in a community setting and clinical practice.

The recruitment of clients and the organization of transportation were two problematic areas during early implementation of the program. In fact, several clients were approached by a team member to convince them to join the program. However, the team's efforts should make it possible to obtain, as at March 31, 2001, the planned number of clients, 30 in total. The program manager's suggestions for maximizing the benefits of this program and attaining the set objectives include pursuing the development of collaborative links, specifically with the Suroît regional hospital where several clients receive specialized care, including hospitalization, pursuing harmonization of rehabilitation and the clinic, and reviewing the organization and funding of transportation.

➢ Cardiovascular

Cardiovascular disease is recognized as a significant cause of mortality and morbidity. The situation prior to implementation of the capitation project regarding the availability of services for clients in the RCM highlights the shortage of services. Regarding promotion and prevention, a cardiovascular health promotion program has been set up in schools. Quit-smoking workshops are also being set up, although they are only available in French.

No other preventive service for this clientele is planned in the region. Concerning front-line services, there are medical services available at the health centre and Barrie Memorial Hospital (hospitalization). The Huntingdon CLSC offers a service for checking blood pressure. Apart from the Hospital's specialized cardiology clinic which has offered services to hospitalized clients since 1998, specialized hospital services were and still are available outside of the Haut-Saint-Laurent RCM.

As part of the capitation project, the parties involved have given priority to restructuring the cardiovascular rehabilitation sector, opting for four programs—improvement of the quality of life of people with cardiovascular disease (cardiac rehabilitation programs: education and physical exercise); access to quit-smoking workshops for the English-speaking clientele, and improvement in the quality of hypertension diagnostics.

1. Cardiac rehabilitation: Education

The concept of this program is that by improving the knowledge of the client and those around him, his quality of life will also improve, thereby contributing, among others, to avoiding hospitalizations and reducing recourse to Emergency. The educational aspect of the cardiac rehabilitation program has been offered since April 1999, as a supplement to that of the Cardiology Clinic, which opened several months before the capitation project. Accordingly, any patient admitted to Barrie Memorial Hospital for a cardiac episode is met with during his stay in order to begin cardiac rehabilitation education.

These patients are invited to an education clinic where they have a one-on-one meeting with a nurse and a nutritionist for the purposes of collecting data. Next, the clients and close family members/friends are invited to participate in an education session lasting two half-days where they are taught about the disease, its prevention and treatment. All clients also receive telephone follow-up for up to three years after hospitalization.

As at January 27, 2001, 44 patients had received education compared with the forecast number of 40. Although having attained the targeted number of clients, these efforts are continuing. The program manager has suggested consolidating the liaison between the health centre, CLSC and the Hospital and promoting the program outside of the Haut-Saint-Laurent RCM where English-speaking patients do not have access to such a program in their mother tongue.

Also, and since the program covers only hospitalized patients, thought could be given to "opening up" the prevention/promotion program and to the possibility of grouping this program with other programs.

2. Cardiac rehabilitation: Physical exercise

This program is intended for clients with coronary heart disease and provides for, in addition to an evaluation of lifestyle, referral to preventive services and systematic follow-up with respect to lifestyle, a prescription and access to a 12-week physical exercise program. This program pursues a triple objective—increase the client's physical ability, promote exercise habits and offer psychosocial support.

As at January 27, 2001, the physical exercise aspect of the cardiac rehabilitation program was still being planned. A multidisciplinary team could be formed shortly following the recruitment of a physiotherapist.

It has been suggested that the physical exercise aspect be integrated with other programs (diabetes, COPD) in order to improve synergy among the programs and increase the number of potential clients.

3. Protocol for measuring and monitoring blood pressure

The goal of this program is to develop and implement standard protocols for all of the region's health care workers regarding measuring and monitoring blood pressure of clients with hypertension as well as to establish a system of inter-communication. According to the scientific literature, these components of case management would often highlight shortcomings and correcting them would contribute to attaining the anticipated effects of the program, namely reducing the number of false diagnoses, improving the control of hypertension and, over the longer term, reducing the number of hospitalizations for diseases related to hypertension. With respect to implementing this program, a protocol has been adopted for following up referrals for hypertension. This has required the collaboration of the Barrie Memorial Hospital CPDP and the CLSC. Training of those involved in the region is to come.

4. Quit-smoking workshop for English-speaking clients

As specified in the introduction, this program will run in parallel to that offered for the French-speaking clientele by the Public Health Department of the Montérégie Regional Health Board. The quit-smoking workshop is complementary to other cardiac rehabilitation programs. In effect, smoking is an avoidable risk factor for several morbidities, including coronary disease. It is also estimated that one death in six and about 8% of hospitalizations are related to smoking. However, one year after quitting smoking, the risk of mortality due to coronary disease falls by 50%, hence the importance of supporting people in their attempts to quit smoking. The primary goal of the program is to increase support for English-speaking clients who want to quit smoking.

After training personnel, planning, and recruiting clients, a first workshop took place from October to December 2000. It is planned to hold two workshops a year. The continuation of efforts to recruit clients was raised by the program manager—four clients attended the first workshop, whereas the target number was 15.

2.3.5 Informational component

The informational needs fall into two categories:

- Implementation of clinical information systems to facilitate the professional, inter-professional and group work
- Creation of a data warehouse on the population using the health care system to create new information on the episodes of care and illnesses, as well as continuity of care, complementarity and cost of services (see Appendix 7).

Clinical information system

A study on *Information system requirements and specifications* for the Haut-Saint-Laurent RCM has been completed (Franco, 2000). First, this study produced a general description of the software product in the perspective of the product to be developed—features, impact on the structure and associated costs. Second, the study defined the system's specific requirements. Lastly, the study analyzed currently available commercial systems and made recommendations based on the specific requirements of the desired system.

Diagram 3 illustrates the required clinical system. The primary objective of this information system which will support local integrated services structure is to enable the implementation of a virtual file that facilitates the sharing of information among personnel. Such a system fosters follow-up and better continuity of services among professionals, health care workers and establishments

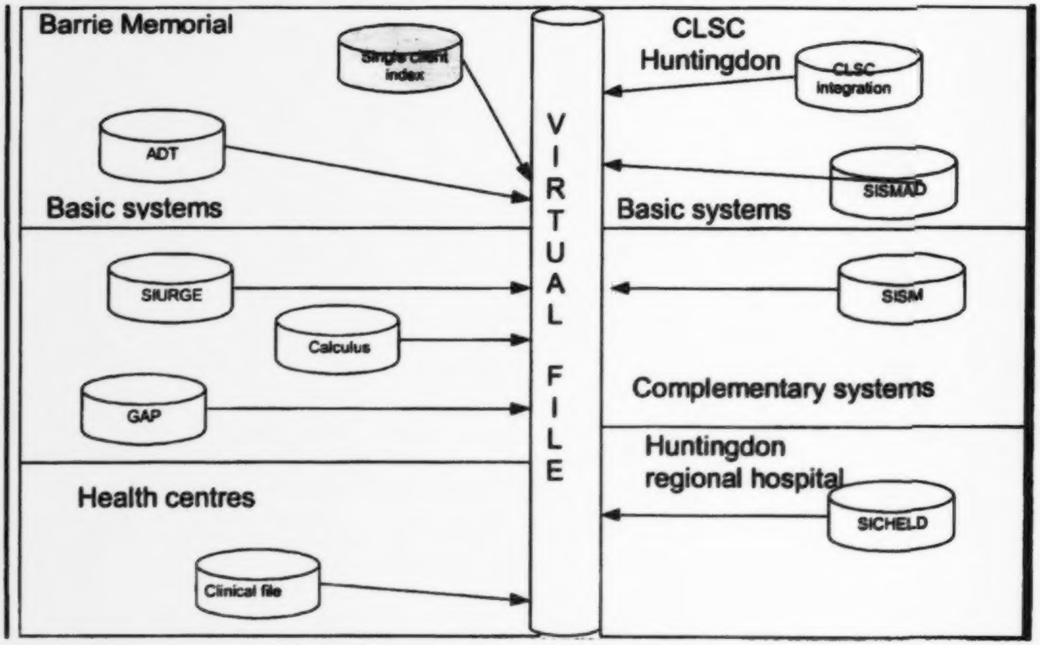

Barrie Memorial
Single client index
ADT
Basic systems
SIURGE
Calculus
GAP
Health centres
Clinical file
VIRTUAL FILE
CLSC Huntingdon
CLSC integration
SISMAD
Basic systems
SISM
Complementary systems
Huntingdon regional hospital
SICHELD

Diagram 3: Target clinical information system

Information systems (computerized or not) were also surveyed in this study as well as the forms used at Barrie Memorial Hospital, the CLSC, the CHSLD and the health centres. The number of forms and the duplication of information in these systems is impressive.

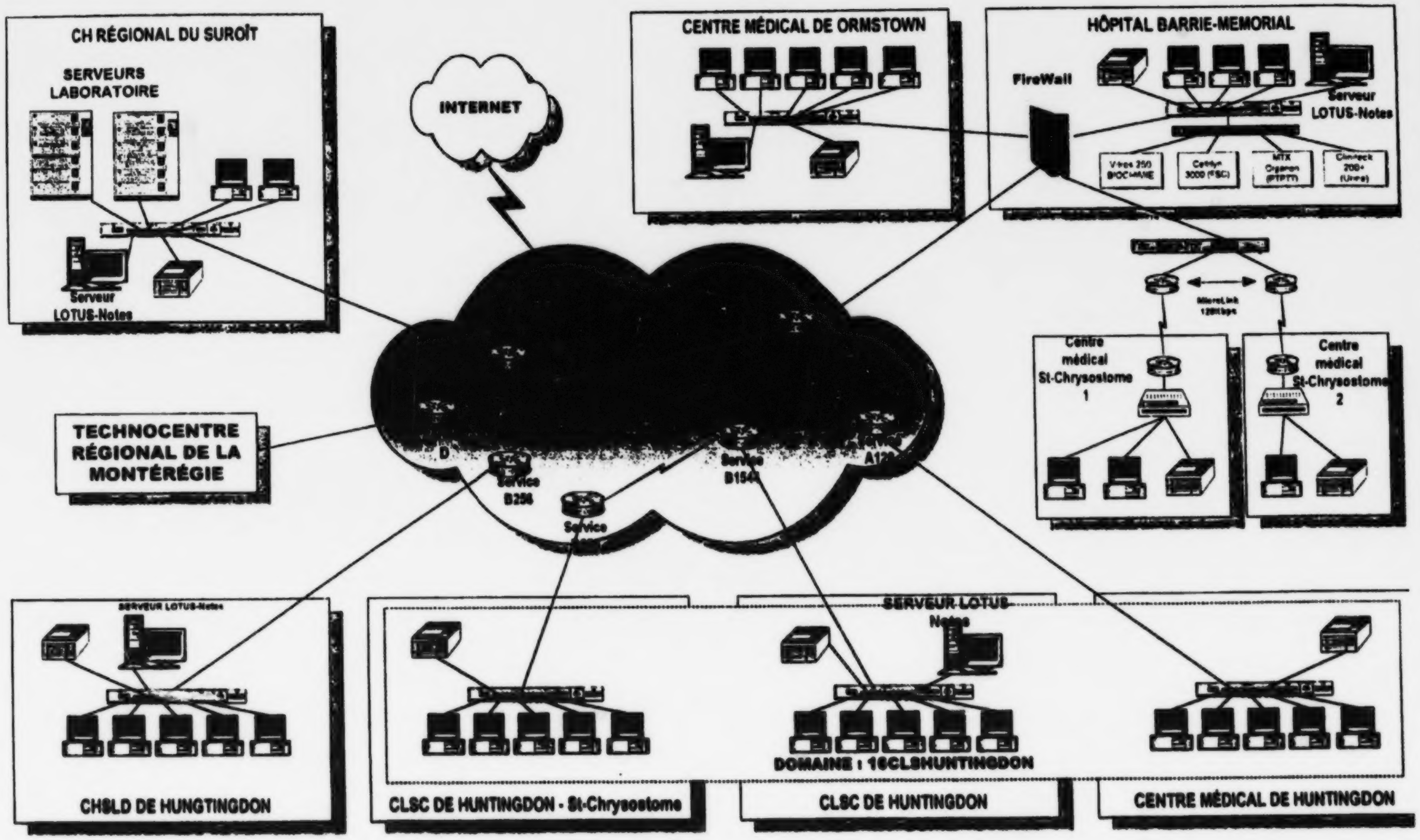
In summary, the study recommends using RTSS and LOTUS NOTES as an infrastructure for exchanging information and using e-mail for all communications and exchanges. These recommendations are in keeping with those issued by the Clair Commission on health and social services. The priorities are the exchange of operational data, automation of summary sheets and development of interfaces with other clientele systems.

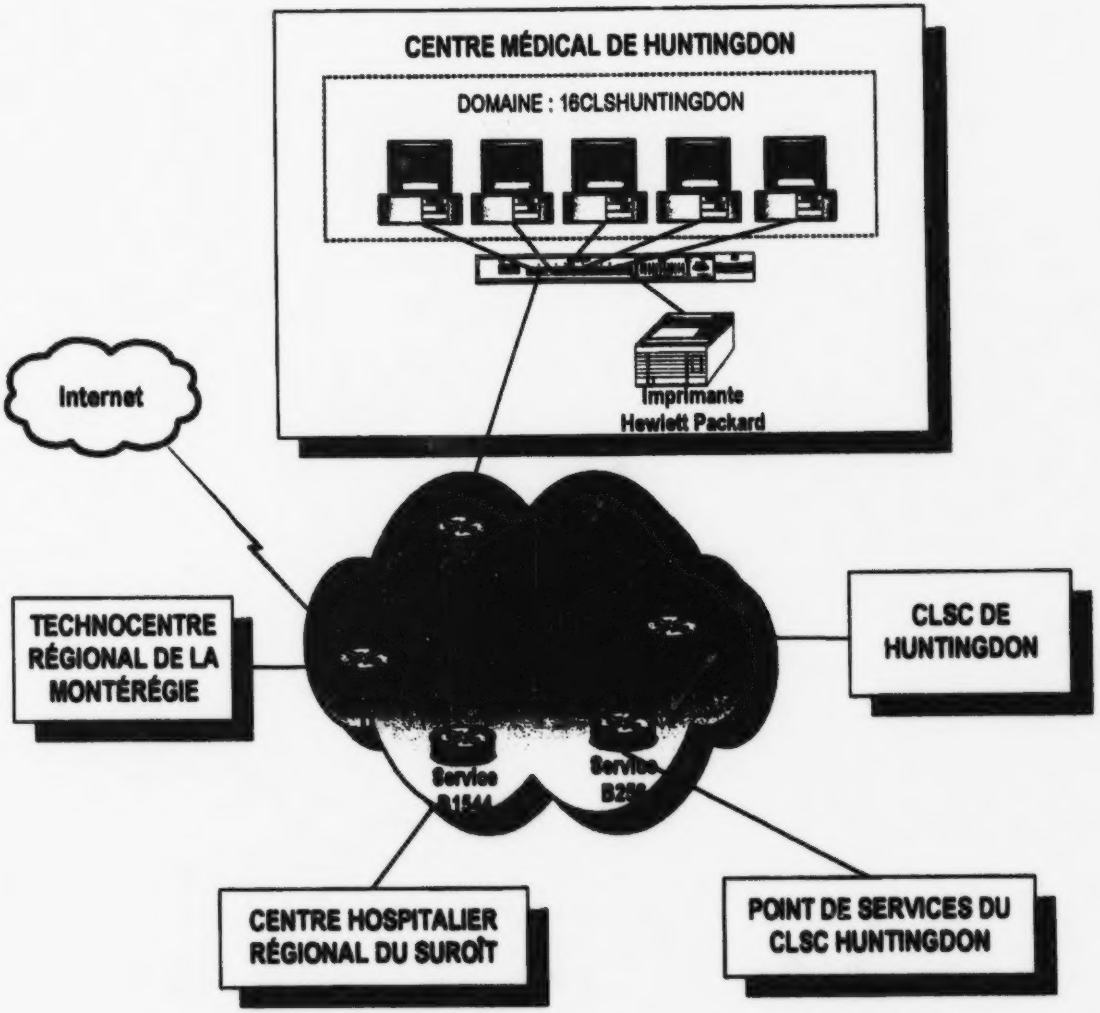
By using the RTSS and LOTUS NOTES infrastructure, the capitation project has enabled the installation of a computer network linking the two health centres, the two medical offices, the CLSC, the CHSLD and the Hospital. In operation since January 2001, this network presented in the following diagram shows the architecture enabling partners in the RCM to access e-mail, LOTUS NOTES, CALCULUS, the laboratory system and SIURGE (Emergency information system).

All of the hardware and software required by this infrastructure, such as computers, servers, printers, emulators and the firewall not acquired by the institutions or health centres were purchased under the capitation project.

For distribution of clinical information, a prototype has been developed and is currently in use. This prototype will reside in the Notes servers at Barrie Memorial Hospital, Huntingdon CLSC and Huntingdon CHSLD. Access to these services will also involve access to all functions of LOTUS NOTES, such as e-mail.

The Notes server at Barrie Memorial Hospital serves that institution, the Ormstown Health Centre and the private offices in Saint-Chrysostome. The server at the Huntingdon CLSC serves the CLSC, its points of service in Saint-Chrysostome and the Huntingdon Health Centre. The Notes server at the Huntingdon CHSLD serves only that institution.


CH RÉGIONAL DU SUROÎT
SERVEURS LABORATOIRE
Serveur LOTUS-Notes
INTERNET
CENTRE MÉDICAL DE ORMSTOWN
HÔPITAL BARRIE-MEMORIAL
FireWall
Serveur LOTUS-Notes
Vitros 250 BIOCHIMIE
Cellдyn 3000 (FSC)
MTX Organon (PTPTT)
Clinitek 200+ (Urine)
MicroLink 128Kbps
Centre médical St-Chrysostome 1
Centre médical St-Chrysostome 2
TECHNOCENTRE RÉGIONAL DE LA MONTÉRÉGIE
D
Service B256
Service
Service B1544
A128
SERVEUR LOTUS-Notes
SERVEUR LOTUS-Notes
DOMAINE : 16CLSHUNTINGDON
CHSLD DE HUNGTINGDON
CLSC DE HUNTINGDON - St-Chrysostome
CLSC DE HUNTINGDON
CENTRE MÉDICAL DE HUNTINGDON


CENTRE MÉDICAL DE HUNTINGDON
DOMAINE : 16CLSHUNTINGDON
Imprimante
Hewlett Packard
Internet
TECHNOCENTRE
RÉGIONAL DE LA
MONTÉRÉGIE
Service
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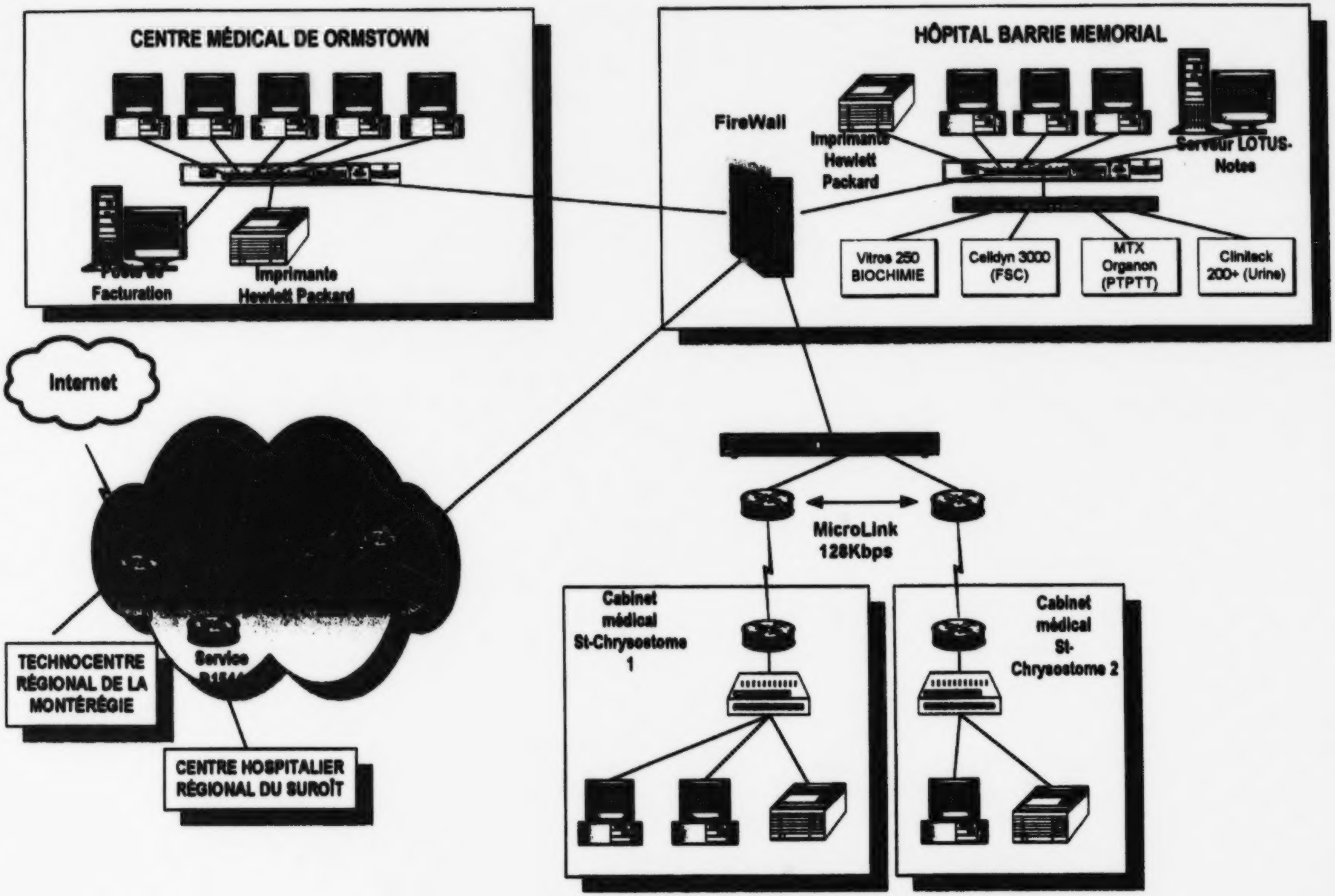
HUNTINGDON
CENTRE HOSPITALIER
RÉGIONAL DU SUROÎT
POINT DE SERVICES DU
CLSC HUNTINGDON


CENTRE MÉDICAL DE ORMSTOWN
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Vitros 250 BIOCHIMIE
Celldyn 3000 (FSC)
MTX Organon (PTPTT)
Cliniteck 200+ (Urine)
Internet
Service
TECHNOCENTRE RÉGIONAL DE LA MONTÉRÉGIE
CENTRE HOSPITALIER RÉGIONAL DU SUROÎT
MicroLink 128Kbps
Cabinet médical St-Chrysostome 1
Cabinet médical St-Chrysostome 2

The system for managing laboratory requests is located at the Suroît regional hospital. The system for managing emergencies is located at Barrie Memorial Hospital. These two systems can be accessed by all institutions via the RTSS network. Accordingly, laboratory results and Emergency summaries will be available on the network, thereby enabling a reduction in urgent analyses and the time dedicated by health care workers to looking for information. Two methods are used to ensure confidential access to data—management of access rights and a daily record of data use.

The Huntingdon Health Centre had to be connected to the RTSS as a Huntingdon CLSC point of service, since only the Huntingdon CLSC is connected to the Montérégie regional Technocentre (diagram).

To enable the Ormstown Health Centre and the private offices in Saint-Chrysostome to benefit from the advantages of the RTSS structure and be authorized to consult information available to all of the institutions in the health network, they have been connected to the Barrie Memorial Hospital local network. For security reasons, a firewall has been installed to insulate the local networks and monitor sharing of the CALCULUS, SIURGE and LOTUS NOTES systems (diagram).

2.3.6 Evaluation

The results of the evaluation included in this report focus primarily on analysis of the implementation and evaluation of its effects. Volume II presents the evaluation's detailed report on the capitation project conducted by GRIS.

2.3.7 Data and resources prepared

This project has involved the use of numerous data sources as well as the development of resulting resources. With respect to data, the following sources were set up or consulted by the Regional Health Board and/or project evaluation team:

- System to monitor programs, including quarterly progress reports and occasional interviews with managers
- Monitoring system (or performance chart) of general indicators for the region's institutions
- Questionnaires on client satisfaction regarding services received
- Questionnaires on the satisfaction of health care workers, physicians and managers
- Documentary analysis, semi-structured interviews and observations at the various committee meetings
- Health system databases (financial data, MED-Echo)
- Population database combining information on almost 200,000 residents in the Montérégie

Concerning the resources developed, the project resulted in the drafting of many documents, including:

- Document on the medical structure
- Frame of reference during project implementation
- Project and program monitoring instrument
- Program implementation forms
- Inter-institution agreement protocols and with health centres
- Quarterly program status reports
- Socio-health care picture of the Haut-Saint-Laurent RCM and neighbouring regions

- Project evaluation protocol (GRIS) and report on the analysis of project implementation (GRIS)

Lastly, an information leaflet entitled "Capitation Project, an Integrated Delivery System" has been distributed to the population. Project presentation materials were also used during conferences.

2.4 Description of variances and problems

The implementation of a local integrated delivery system constitutes a profound change for the region. The list of variances and problems in the capitation project presented is not necessarily exhaustive, but provides insight as to the scale of the issues associated with restructuring services on a regional basis. As mentioned in Shortell et al. (1996), the implementation of an integrated delivery system model involves a profound restructuring of the region's health care system and proves difficult to implement. The methods used in resolving certain problems are reported in this chapter, although they could equally have been included in Chapter 3, under the heading "Problems and Potential Solutions."

From the perspective of the personnel working on project follow-up and control, below is a list of the major variances and problems:

➢ Initially, there was an underestimation of the complexity of the changes required by the intervention model—which includes clinical, administrative, financial and informational integration—based in part on the ability to operationalize these changes (administrative setbacks, etc.) and in part on the time required at the local level to integrate these changes.

Underestimation of the project complexity surfaced as follows:

- The need to perform additional (i.e. unplanned) work to supply the clinical services committees set up under the project.
- An underestimation of the time required to make the changes, in considering the various levels of a complex health care system—local level, inter-institutional relations, intra-organizational operations and the power dynamic between the individuals involved. In effect, those involved needed time to interact with each other to reach an understanding on the objectives to pursue and the nature of changes to be made.

➢ From the start of the project, there was a significant ideological gap between the executive boards of member institutions of the integrated delivery system, specifically with regard to the vision of the delivery of services and the fear of losing certain existing services.

This variance translated as follows:

- Difficulty implementing a method of governance that complied with the planned administrative model. Accordingly, the project did not create a local body to be responsible for planning all of the region's services and allocating the use of resources. The model implemented was based on maintaining the independence of regional institutions. A steering committee was set up to deal with this inherent fact. The CLSC and CHSLD merged in November 2000.
- A less-than-expected fluidity in decision-making and the maintenance of a certain isolationist functioning, the existing structure supporting independence of the institutions.
- The creation of a steering committee responsible for approving clinical projects and allocating resources for the purposes of the trial. The GRIS evaluation report (2001) stresses

that a strengthening of the strategic view is dependent upon the design and implementation of a management device that will enable the institutionalization of clinical programs over time. This management device could take the form of a local body responsible for planning the region's services as well as allocating the use of services. Regional institutions are currently working on preparing a follow-up to the project, including a method of governance that reflects this suggestion.

- Financial integration could not be accomplished in Phase I of the project. Conversely, management by inter-institution project was set up. As clinical integration advances, specifically in the mental health sector, a method of capitation funding could be tried in this sector in Phase II of the project.

- One of the weaknesses of the RCM health care system is the aging and non-renewal of medical personnel, explained in part by the shortage of physicians and by the remuneration methods for younger physicians (remuneration at 70% for the first three years of practice), as well as the shortage of other health care professionals (nurses, respiratory technicians, speech therapists).

  This shortage of physicians and health care professionals resulted in the following:

  - A delay in implementation due to the inability to provide the services required, specifically the programs providing accessibility to local speech therapy services, systematic follow-up of clientele with chronic respiratory problems (COPD) and consolidation of front-line medical services.

- Uncertainty regarding continuation of the trial beyond March 31, 2001 led to questions about the stability of personnel and professionals in the context of an already existing shortage in the region. Regional institutions and the Montérégie Regional Health Board have agreed to fund the project for a further three months (April to June 2001) while awaiting confirmation of funding for Phase II of the project.

- The creation of the data warehouse resulted in administrative (specifically for obtaining authorization to integrate various databases) and technical procedures that were more complex than anticipated.

- The implementation of the computer network connecting the region's institutions and health centres also had its share of problems. The two major difficulties were finding an infrastructure that was compliant with the existing technologies and information systems and obtaining authorization to use the existing RTSS structures to connect the health centres. Having surmounted these difficulties, the network is currently operational. Based on the analysis of needs of physicians and clients in the region, the following information is now available on the network—laboratory results and Emergency summaries.

- The project's short trial period, specifically for organizing several clinical programs, raises the question of whether the timetable is too short to affirm certain results.

  This is reflected in the following:

  - The impossibility for the evaluation team to assess, among others, whether the implementation of the integrated delivery system has led to increased use in the region by residents of the Haut-Saint-Laurent RCM. A more detailed assessment of results could be done in the short term, with the assistance of the integrated data warehouse.

3. RESULTS AND IMPACTS

After setting out the main results and impacts of the project, this section presents observations on the procedures and the lessons learned during the trial. This is followed by a discussion on components of the evaluation framework proposed by the HTF. The section closes with a description of the consequences on services and policies stemming from the project.

3.1 Main results

The trial of a new method of structuring and delivering health care and services to the region's population generated interesting results. In compliance with the project's objectives, trends were noted regarding the improvement of the quality of services and client satisfaction, through better accessibility to health care with the repatriation of front-line services and the development of prevention and monitoring services, improvement in service efficiency through an increased use of less costly resources and improvement in the care of the population. In brief, a larger number of clients have been treated in the region and they were treated differently. This section presents the results reported following the collection of information by the program managers and the more "general" results of the project.

3.1.1 General trends

The following table presents an overview of the results observed by the program managers. Although it is difficult at this time to confirm the overall results, some programs have probably contributed to reducing recourse to Emergency (multidisciplinary work in private practice, Diabetes Clinic and Wound Care Clinic), reducing hospitalizations in Medicine (Cardiac Rehabilitation Clinic, Diabetes Clinic), increasing recourse to home support (integration of palliative care services, development of the potential of homecare services) and so-called light resources (Diabetes Clinic, mental health programs).

The trends reported are not exhaustive. In effect, the programs pursue other objectives, such as delaying the institutionalization of dependent clients (*La Relève* day respite, development of the potential of homecare services), facilitating social integration (mental health programs), increasing the quality of life of clients (Diabetes Clinic, Cardiac Rehabilitation: Education) and repatriating clients to the region (local accessibility to speech therapy services, integration of palliative care services).

The overall results are in keeping with those expected for a more integrated management of the population, through greater use of services promoting light resources and increased accountability toward the population. These results comprise trends which remain to be confirmed.

Table 6:

Treads reported for several programs

Clinical sectors/domains	*Emergency*	*Hospitalization*	*Homecare*	*Light resources*
Ambulatory services				
1. Clinical-administrative trial with multidisciplinary work in private office	Reduced (observed)	Reduced (possible)	Increased (possible)	Increased (observed)
2. Integration of the Diabetes Clinic health care/services	Reduced (possible)	Reduced (observed)	Reduced (possible)	Increased (observed)
3. Integration of care/services for clientele requiring wound care	Reduced (observed)	Reduced duration (possible)	–	Increased (possible)
4. Systematic follow-up of clientele with chronic respiratory problems (COPD)	Reduced (possible)	Reduced (possible)	Increased (possible)	Increased (possible)
5. Development of the potential of homecare services: Enhancement aspect	–	Reduced (possible)	Increased (observed)	Increased (possible)
6. Development of the potential of homecare services: Service intensification aspect	–	Reduced (possible)	Increased (observed)	Increased (possible)
7. Cardiac rehabilitation: Teaching	Reduced (observed)	Reduced (possible)	–	Increased (possible)
Dependent adults and the elderly				
1. Integration of palliative care services	Reduced (observed)	Reduced (possible)	Increased (observed)	Increased (observed)
2. Day respite *La Relève*	–	–	Increased (possible)	Increased (observed)
3. Integration of telemonitoring services	Reduced (possible)	Reduced duration (possible)	Increased (possible)	Increased (possible)
Mental health				
1. Consolidation of the multidisciplinary team	n/a	Reduced (possible)	–	Increased (observed)
2. Intensive follow-up in the community and rehabilitation	n/a	Reduced (possible)	–	Increased (observed)

3.1.2 Results attained

Note first of all that the capitation project included a trial with an integrated delivery system for the purpose of introducing a new method of structuring, delivering and financing health care and services.

Here briefly are the main results attained as at January 27, 2001:

- Consolidation of the range of services at the local level for the purpose of improving continuity, care and repatriation of patients to the region, in conjunction with the medical structure.

  This consolidation has enabled:

  - Implementation of some twenty trial programs following their approval by the steering committee. The principals are currently studying the possibility of combining some programs (three instead of twenty) in order to strengthen clinical integration and facilitate on-the-ground cooperation and continuity of services.
  - Standardization of care procedures and a change of practices, specifically through a review and development of twenty clinical protocols.
  - Increased complementarity between institutions in the delivery of services.
  - Promotion of systematic follow-up for certain clienteles.
  - Integration of the region's general practitioners into the structuring and planning of health care and services.
  - Development of interdisciplinary work with respect to the target clienteles.
  - Hiring of nurses for the health centres.

  The preliminary results are as follows:

  - More than 5,000 clients (approximately 20% of the region's population) have benefited from the programs and systematic follow-ups implemented.
  - In Medicine, a 9% reduction in admissions and a 6.7% reduction in hospitalization days compared with the first 11 periods of last year.
  - A 9.7% increase in the referral rate for homecare services compared with the first 11 periods of last year.

- The hiring of nurses in the RCM health centres to support medical practice and the local integrated services structure. Since their arrival, the following has been noted:

  - An increase in the number of patients seen by the nurses.
  - A diversity of tasks accomplished (e.g. follow-up of treatment, nursing evaluation, teaching).
  - An almost 5% reduction in visits to the hospital Emergency department compared with the first 11 periods of last year, despite an upward trend in neighbouring institutions.

- The installation of an information exchange network connecting the region's health centres and institutions to enable the sharing of information concerning clients, better follow-up and improved continuity of services through rapid access to information (laboratory test results, Emergency summary sheet).

- The creation of a data warehouse combining most of the data on services used by residents in the RCM and the four control CLSCs. This warehouse, the first trial of its type in Quebec, fosters the production of new useful knowledge for research and services management.

- To support the changes stemming from the implementation of a local integrated services structure, the following are necessary:
  - Participation of physicians on most of the committees created under the project.
  - Remuneration of physicians for activities related to organizing and managing clinical programs.
  - Provision of ten training sessions for the various health care workers involved in the programs.

These results, attained over a very short period, are, in Quebec at least, highly innovative. They constitute a rich source of information in the implementation of similar trials, particularly those involving local integrated delivery systems in rural settings.

3.1.3 General impacts

One of the major impacts of the capitation project is to have enabled the implementation of an integrated delivery system in a rural setting. This system strengthens and relies on an effective medical structure and strong front-line care. This new method of approaching health care structuring has promoted:

- Change in the availability of local services and access to more services delivered in the region
- Increased complementarity between institutions and health centres
- More optimal use of resources and skills available in the region
- Different management of the population
- Learning new ways to structure health care

The region's main players want to continue the trial beyond the period specified in the HTF grant. In anticipation of confirmed funding for Phase II of the project, the executive boards of the institutions and the Montérégie Regional Health Board agreed to fund the project for a further three months (April to June 2001).

The clinical-administrative trial of multidisciplinary work in health centres is an interesting illustration of a value-added program in an integrated delivery system. In addition to developing a new complementarity between the basic medical services delivered in the region's health centres and public institutions, this trial, a first in Quebec, provides accessibility to nursing care within health centres. Since September 1, 2000, nurses at the Huntingdon and Ormstown health centres have seen more than 3,700 clients. Appendix 3 presents testimonials of satisfaction with this experience. This trial has stirred considerable interest among health care workers, including the *Fédération des médecins omnipraticiens du Québec*. The FMOQ has also participated in meetings of the region's physicians to discuss structural models for medical services in a rural setting.

The Diabetes Clinic also illustrates interesting impacts of the project regarding management of the population and the impact on health. This clinic provides follow-up, teaching and treatment services. As at January 27, 2001, some 360 clients have benefited from the clinic's services. This program promotes optimal control of diabetes, thereby helping reduce and avoid hospitalizations.

As an illustration of improved control of diabetes, analysis of completed files shows a reduction in glycosylated hemoglobin levels between the time of admission to the clinic and recall after four months, with the average glycosylated hemoglobin level for these clients falling from 7.59 to 6.83.

Although the optimal glycemia level has not been reached (reference value is 4.00–6.20 according to studies), any 1% reduction in glycosylated hemoglobin is accompanied by a reduction in diabetes-related mortality and morbidity.

The capitation project director has been called by other health care executives, both inside and outside the Montérégie region, to discuss the project's trial, particularly the clinical-administration trial of multidisciplinary work in health centres (implementation, operations) and to support the implementation of this program in other regions. This trial could therefore be exported quite shortly.

It must be stressed that this is part of the recent suggestions of the Clair Commission on health and social services, particularly on setting up family medicine groups. This proposal received a positive response from the Minister for Health and Social Services on February 26, 2001. The methods, including those for registering clients and remunerating physician and nurse members of these groups still remains to be decided.

To support the necessary operational changes related to an integrated delivery system, the installation of an information exchange network connecting the region's health centres and institutions is an important acquisition for the project. The creation of the database in Phase II of the project will enable discussions in the field through the production of new, currently unavailable information.

3.2 Observations on the procedures and the lessons learned

The results presented are still partial and must be reanalyzed in light of the evaluation report. However, the expertise acquired and the learning accomplished by those involved in the integrated delivery system tend to show the potential of the health care and services organizational funding model initially submitted to the HTF. This learning contributes to the transformation of practices and work methods of health care providers and organizations.

The implementation of the integrated delivery system represents a profound, radical change for the region. The operationalization and securing of clinical, administrative, financial and computer integrations remains complex. As methods for health care funding and structuring go hand in hand, the full potential of the model can only be realized by coherently orchestrating the various types of integration. This section covers several components of the procedures used to implement the change and the lessons learned.

For clinical integration, the following observations appear particularly important:

- The decision to concentrate efforts in the early stages on clinical integration by placing the emphasis on patients and their needs appears interesting. In fact, the programs implemented serve as reference points for the integrated delivery system. They also make it possible to bring together those involved and the regional bodies and to build on the strengths in the field based on the needs identified.
- The planning and implementation of these inter-institution programs has required more time than originally anticipated. The personnel involved came from a variety of locations and needed time and neutral space in which to interact in order to reach an understanding on the objectives to pursue and the types of changes to make. On this point, the technical and professional support of the RRSSS-Montérégie has been deemed important.
- The sustained involvement of the region's medical and health professionals in structuring services right from the start of the project has facilitated clinical integration. To this end, the project has enabled physicians to be remunerated for their management tasks.
- To consolidate the operations by inter-institution programs and clinical integration, three factors appear particularly promising:
    - grouping the current twenty programs into a smaller number of programs

- integrating all of the region's services as part of the process
- ensuring fuller administrative and financial system integration through, among others, the creation of a local management entity and the capitation trial.

For administrative integration, the following observations have been made:

- The decision-making process is sometimes slow because of the diversity of people involved, the locations where care is provided and the methods to be respected. This administrative slowness is accompanied by a dual administration process—managing the implementation of the capitation project and managing the institutions' daily operations, in a context, moreover, where there has been no deregulation.
- Management by inter-institution project which was set up and headed by a steering committee cannot serve as a long-term substitute for a decision-making structure that is better adapted to a regional approach. The creation of local governance promoting higher accountability of executive boards for the integration of services is still to come. The implementation of a management chart including indicators that take into account the needs of the population and operating within a system could fuel discussions.
- In the interim, the adaptability of the initial model to local realities constitutes an asset to keeping the project heading toward the desired objective. Bringing the region's health care workers onboard is crucial, all the more so as the switch from the former paradigm, based on belonging to an institution, to the new paradigm, based on belonging to the local integrated delivery system, is accompanied by an ongoing adjustment to the new work methods. These adjustments include the clarification of concepts (case management, systematic follow-up) and new roles (key health care provider, program manager, health centre nurse) brought about by operating in an integrated network.
- Clarification of the operations of the integrated delivery system is dependent on change strategies. These strategies can take several forms, including training, standard protocols and a computer network. The technical and administrative delays have postponed the contribution of the database analysis to Phase II of the project.

For financial integration, the two following factors are to be noted:

- Although funding by project improves the allocation of resources based on population needs, the capitation funding trial would make it possible to redistribute resources in another way, one that is based more on regional accountability for services to be delivered to the population.
- This avenue is currently envisaged by those involved in the integrated services system. The adoption of capitation funding goes hand in hand with the suggestions for promoting the advancement of clinical and administrative integration in order to foster attainment of the full potential of the model.

For computer integration, the following observations appear significant:

- It is important to support changes that lead to operation of an integrated delivery system based on a computer network that supports exchanges and sharing of information. Ideally, the computer system would have been available from the start of the project.
- The current information systems on the various clienteles provide little information for assessing operations in an integrated delivery system. For example, there is no quick way to determine the population's use of various services nor the contribution of the various missions (medical, hospital, long-term care) in satisfying the clients' needs. The integrated database is a promising avenue for studying care channels in a regional perspective.
- The operation of the integrated database could also have given those involved something to consider, particularly regarding the care channels for the region's residents. This knowledge will be available in Phase II of the project.

3.3 Thoughts concerning the HTF evaluation framework

The Health Transition Fund included an evaluation framework with the guidelines for drafting the final document. This evaluation framework allows for a description of the manner in which the project has affected the following six components: Access to services, quality of care, integration with other services, health of the target population, profitability of services and transferability. This section presents the trends observed and the results of the GRIS evaluation regarding these components.

3.3.1 Access to services

The capitation project has enabled increased access to more services delivered in the Haut-Saint-Laurent RCM. In a perspective of population responsibilities, this consolidation falls under the range of services deemed indispensable for a local integrated delivery system in a rural setting.

This improved accessibility is accompanied by changes regarding where services are delivered and the work methods of the professionals providing the services. Accordingly, the programs promote multidisciplinary work (e.g. trial with a nurse working in a health centre) and recourse to ambulatory services (Diabetes Clinic, systematic follow-up of clientele with chronic respiratory problems (COPD)). This improved accessibility also includes an adjustment to language services, with most services being offered in both official languages.

3.3.2 Quality of service

The implementation of an integrated delivery system leads to interesting results regarding the quality of services. First, changes in the use of regional resources, particularly a drop in recourse to Emergency, fewer admissions and hospitalization days in Medicine, a higher referral rate to homecare and the use of ambulatory services. The GRIS will also present an analysis of the use of services in its final report. However, given the project's short trial period, it will be impossible to confirm the reorientation of use toward ambulatory services and increased regional use by residents of the Haut-Saint-Laurent RCM, but rather to assess the trends observed. Furthermore, the capitation project contributes to a more optimal use of regional resources and skills—which the HTF refers to as the relationship between the client and the service provider satisfying the need—among others, through the development of multidisciplinary work (integration of nurses in health centres), implementation of so-called light resources (*La Relève* day respite, clinics and systematic follow-up for certain clienteles (mental health program, COPD)).

The quality of services also includes evaluation of the satisfaction of health care workers and clients. This dimension of quality is being examined by the GRIS.

In its evaluation of the effects, the GRIS evaluation report (see Volume II) presents results for the population and for the diabetic clientele. For the population, the evaluation indicates an improvement in user satisfaction with respect to care received and their perception of the quality of primary care, specifically with regard to continuity and coordination. The evaluation also highlights an improvement with regard to care received by the diabetic clientele.

3.3.3 Integration of services

Integration is a cornerstone of the capitation project. The model includes four types of integration to be completed: Administrative, financial, clinical and informational. Accordingly, the activities and efforts of health care workers fall under the search for a stronger integration of services.

For example, in changes to the arrangement and types of services, implementation of the integrated delivery system has promoted increased complementarity between institutions and health centres. In addition, this complementarity has contributed to avoiding overlapping and duplications in the health services. The work accomplished by the various theme and clinical committees has enabled this result to be attained.

Integration is also reflected in the development of new methods for collecting data, exchanging information and communications. The project has enabled the installation of a computer network connecting the institutions and health centres. This system permits the sharing of information on clients, better follow-up and improved continuity of services. In addition, the project has enabled the creation of a data warehouse combining most of the data on the use of services by some 200,000 residents in the Montérégie region. This warehouse can contribute to the production of knowledge that is useful for research and for those involved in Phase II of the integrated delivery system project.

One of the avenues of integration used is the implementation of integration and coordination mechanisms between health care workers and the institutions, including:

- Committees responsible for various aspects of the project
- Standardization of practices through the review and development of clinical protocols and the provision of training sessions
- New support roles in network operations (program manager, nurse in health centre)
- Multidisciplinary teams for certain programs
- Participation of physicians and remuneration for their work in structuring regional services

Lastly, integration includes a change in the use and the variety of existing resources, such as strengthening the structure of front-line services, increasing the variety and locations where care is delivered and creating new roles as well as increasing the multidisciplinary and inter-institution work of human resources.

3.3.4 Health impacts/effects

Given the short duration of the trial, the measurable indicators of the population's state of health are not included. However, and as specified previously, the Diabetes Clinic program promotes optimal control of diabetes as is suggested by the lower levels of glycolysated hemoglobin evaluated on analysis of completed patient files. Also, the GRIS evaluation (see Volume II) reports an improvement in the quality of life of the diabetic clientele.

The GRIS final report will, however, present a qualitative and quantitative evaluation of the quality of care. The qualitative analysis of the care process refers to an evaluation of the coordination of services during critical incidents (recourse to accommodation resources, transfer to the community) whereas the quantitative analysis of results consists in verifying the non-deterioration of certain indicators during significant events (hospital readmissions, admissions to Emergency).

3.3.5 Project cost-effectiveness

According to the evaluation framework suggested by the HTF, cost-effectiveness can be gauged through changes in efficiency brought about by the implementation of the integrated delivery system, changes in costs and in the combination of service providers and locations. Given the decision not to include measurable indicators on health status, it is difficult to elaborate on changes in the realm of efficiency. With respect to assessment of costs, the GRIS is conducting a cost estimate of certain care channels. Lastly, various clinical programs illustrate the efforts targeting a more optimal arrangement of care delivery locations and use of physicians' and health care professionals' skills. For example, the project's clinics contribute to a use of services that promotes light and preventive resources, and many programs impose increased multidisciplinary work.

3.3.6 Transferability and generalization

This final component of the HTF evaluation framework examines the lessons drawn from the project's trial that could be useful in other skill, program or regional sectors.

Several elements should be drawn from this trial:

- **Links between features of the project implementation and the results.** The results obtained during the short trial period are interesting. These results stem primarily from progress in the clinical and informational integration of the integrated delivery system. Continuation of the project would result in reaping the full potential of the model's benefits, by consolidating the financial and administrative integration, particularly through the creation of a local management body to plan regional services and allocate resources.

- **Prerequisite conditions must exist within the system to guarantee success.** The implementation of an integrated delivery system in the region is facilitated by the presence of favourable conditions. Among the strengths of the Haut-Saint-Laurent RCM health care system, we should note that geographically the RCM is relatively compact, that considerable importance is accorded to front-line services and that our highly versatile physicians have a varied and demanding practice.

  Moreover, a harmonious climate reigns among physicians, nurses and health care workers, links already exist between regional organizations and there is strong community commitment toward its institutions.

- **Obstacles encountered.** An explanation of the obstacles is presented in subsection 2.4 of this document—an underestimation of the complexity of changes required by the model, an ideological gap between the executive boards of the network's member institutions, a shortage of physicians and certain other health care professionals, the short duration and uncertainty regarding continuation of the trial, and a certain administrative and technical sluggishness in setting up the computer network connecting the region's institutions and health centres to the integrated database.

- **Innovative aspects of the model.** The most innovative aspect can be summarized as the implementation of a care structuring method, namely a system of integrated care based on an effective medical structure and the consolidation of the range of basic services offered in the region. This method of structuring and delivering care and services by focusing on front-line care appears in the orientation recommended by many experts as well as in recent proposals by the Clair Commission on health and social services (2001). The capitation funding trial planned for Phase II of the project includes an innovative aspect yet to be finalized, as it still has to be tested and analyzed.

- **Manner in which the integration or coordination of services has contributed to attaining the program's objectives.** The project targets the clinical, administrative, financial and informational integration of the local integrated services structure. Accordingly, the integration and coordination of services contributes to attaining the objectives pursued.

- **Components of the project which seem particularly transferable.** As previously reported, the clinical/administrative trial with multidisciplinary work in health centres appears to be one of the most innovative and transferable programs in the project. This trial is closely in line with one of the orientations announced in February 2001 by Quebec's Department of Health and Social Services (MSSS) following the report of the Clair Commission on health and social services (2001).

This orientation focuses on the creation of family medicine groups which include nurses and other health professionals. This trial has raised the interest of many people and could be exported to other regions in Quebec.

The integration of nurses into a health centre is of major importance when setting up a region's local services structure. In locations where it is deemed appropriate to unite all health care personnel for a given region, it is interesting to adopt administrative, financial, clinical and informational models in order to contribute to the implementation of other integrated delivery systems. These models must, however, be adapted to local realities. The completion of such projects may be easier in a rural setting, given the size of the network (more easily controlled), a medical practice already more closely aligned to family medicine and a more natural affinity of the population toward locally available services.

- **Groups having benefited most from the project.** These groups are the clients and the population of the Haut-Saint-Laurent RCM, the health professionals, the physicians, the other people involved in the region and the health care system. In fact, the clients of the various services and the RCM population in general have better access to a more complete range of basic services made available much closer to where people live.

  For health care professionals and physicians, the project has promoted a different management of patients resulting, among others, in an increased recourse to multidisciplinary work, standardization of care protocols and increased participation, specifically by physicians, in the structuring of regional services. The GRIS evaluation should confirm a high level of satisfaction among clients, health professionals and managers (work satisfaction, assessment of inter-institution relations) following the project. As can be seen in the following section, the health care system also emerges a winner from the trial, if it is judged on the trends observed in institutional performance.

3.4 Impact on programs and policies

Thanks to the efforts of health care workers, physicians, health professionals and managers, it has been possible to set up a local integrated services structure that strengthens and relies on an effective front-line medical structure. The capitation project offers potential solutions to the operation of a regional system for structuring basic services, coordinating and integrating services, and adapting organizational and professional practices, including medical practice. To this end, the recourse to nurses in health centres represents a success factor in the implementation of the integrated delivery system. These health care professionals contribute to an optimum use of skills and a new complementarity between the services delivered in regional health centres, in public institutions and in the other programs set up under the project.

The cooperation in the region, supported by a team from the Montérégie Regional Health Board, has made it possible to bring the partners together in a local network and to reach an agreement regarding the sharing and complementarity of services to reach the expected results.

The capitation project has given interesting results for the population in terms of management which could, however, be consolidated through the addition of organizational and financial controls, including:

- Intensified integration of medical services
- Implementation of a governance structure strengthening the strategic vision of the trial
- Capitation trial
- Stability of the trial and continuation of a multidimensional evaluation

An intensification of physician involvement could be reflected in the integration of all regional services in Phase II of the project. The participation of physicians in network governance is an asset to be preserved. However, it would require funding for management tasks, indeed an adjustment to physicians' remuneration methods. This adjustment could be incorporated into the formation of the ***family medicine groups*** recommended by the Clair Commission on health and social services (2001). Nurses and other health care professionals could support physicians in these groups. The remuneration methods for nurses in health centres has yet to be determined.

The implementation of a governance structure strengthening the strategic view of the trial also remains to be determined for Phase II of the project. The following suggestions were made by regional personnel involved: The implementation of a structure promoting the accountability of executive boards in the integration of services and the formation of unified regional committees (Hospital, CLSC, CHSLD), such as the Council of Nurses. These suggestions are in line with one of the recommendations of the Clair Commission on health and social services (2001), namely the creation of a unified executive board at the local level. This recommendation is intended to facilitate the integration of front-line services.

The switch from per-institution funding to capitation funding at the level of regional responsibilities for services to be delivered to the population would also strengthen the financial integration of the health care network. A new funding method would contribute to redistributing resources based on clinical responsibilities, not on institutions. A pilot trial, in the mental health sector, for example, could be contemplated for Phase II. The implementation of integrated management approaches in the field could also lead to changes in administrative practices at the regional level (e.g. capitation simulation, easing of administrative regulations), particularly for regional resource allocation policies.

Lastly, stabilization of the trial would make it possible to implement the model and free up savings to be reinvested in the region. This stabilization would enable consolidation of inter-institution links and links with health centres, clarification of the roles created to support network operations (program manager) and certain concepts (case management), and focusing of the information strategy on professionals and the population. This consolidation of links should be reflected through increased use of the clinical information system. Furthermore, the continuation of a multidimensional evaluation is important in order to draw lessons from the realization (implementation, consolidation) of integrated delivery systems. To drive the practices and work methods, knowledge generated by the data warehouse would also be useful.

4. DISTRIBUTION PLAN

The project's communication plan is presented in Appendix 5 of this document. It was drawn up by the Communications department of the Montérégie Regional Health Board at the request of the project director and in conjunction with the executive directors of the Barrie Memorial Hospital and the Huntingdon CLSC/CHSLD.

This plan proposes a strategic plan for communication activities that could be implemented for the duration of the project in order to contribute to its success. The communication activities would address the population, personnel in the institutions involved and the partners.

The goals of the plan are to ensure the population makes greater use of the health care services in the Haut-Saint-Laurent RCM and to obtain the collaboration of all personnel involved in implementing the project, both for its promotion and implementation.

Appendix 6 contains a non-exhaustive list of distribution and publication activities.

5. CONCLUSION

The capitation project favours the implementation of an integrated delivery system with the aim of introducing a new way of structuring, delivering and funding health care and services in the rural Haut-Saint-Laurent RCM. The implementation of a local integrated delivery system will be based on a strong medical structure and front-line treatment system. Nevertheless, this implementation represents a profound change for the region.

First, the project focused on the clinical and informational integration of the integrated delivery system. This integration reinforces the development of a common vision based on the needs of the population, and also acts as a springboard for reviewing administrative and financial procedures. This is the reasoning behind the plan to introduce capitation funding in a later phase of the project.

Since the beginning of the project, clinicians, physicians and administrators have worked to develop and implement some 20 clinical programs in four sectors. These programs constitute various anchor points in the integrated delivery system by bringing together the region's various professionals and institutions, improving continuity of care, and reinforcing communication and collaboration while breaking down institutional barriers. In addition, the information system implemented will help consolidate clinical integration, thanks to the sharing of information among physicians and other professionals.

Considering the progress made in such a short period of time, as well as the instability created by such a tight schedule, the preliminary project results are significant and encouraging. The main changes noted include a different type of use of the region's skills and resources, as well as changes in population management and the population's use of services. For example, the available data indicate increased recourse to ambulatory services and light resources, fewer visits to Emergency, and fewer admissions and shorter stays in Medicine.

The data also show an increase in referrals to homecare programs, and a higher regional retention rate of people with mental illnesses. Finally, preliminary data show that a different type of patient management can contribute to improved health, as was the case for the Diabetes Clinic, where an analysis of patient files showed a decrease in glycosylated hemoglobin levels.

Thanks to the efforts of all those involved, the project proposes ways in which an integrated system can structure basic services, coordinate and integrate services, and adapt organizational, professional and medical practices. These efforts are in line with current thinking by health services restructuring experts, and the *Commission d'étude sur les services de santé et les services sociaux* (Clair commission on health and social services), whose report was recently published.

As the capitation project was largely based on the implementation of clinical programs, evaluation of the latter is of particular importance. In addition to quantitative evaluation of the effects of these programs, other more qualitative effects are also important, particularly concerning the training associated with the clinical and informational integration. This training will contribute to the reworking of practices and structures and, ultimately, to the development of a strong, viable regional integrated delivery system.

Nevertheless, the implementation of such a system will result in a profound change in the region's health care network. The GRIS evaluation (see Volume II) makes the following recommendations in terms of project follow-up:

- Consolidate ties between health centres to promote greater integration of care
- Clarify certain concepts and roles created by the new model, particularly the concepts of case management and systematic patient follow-up
- Foster the involvement of physicians by, for example, making efforts to attract new graduates to the region
- Develop a plan for informing professionals and the population
- Prepare an operational and strategic plan to better define the results of Phase I and the issues at stake in continuing with the pilot project

According to this analysis, the project's main challenge lies in consolidating the strategic vision of the pilot project by designing and implementing a management structure that will enable the promotion and future institutionalization of the clinical programs. To this end, the researchers recommend the pilot project be continued and that it focus its efforts on creating a regional entity and on implementing a management structure responsible for planning, allocating and using resources, and for a capitation funding method.

The region's professionals hope to continue the pilot project beyond the period stipulated by the HTF grant. While awaiting confirmation of funding for Phase II, the boards of directors of the institutions and the Montérégie Regional Health Board have agreed to finance the project for a duration of three months (April to June 2001).

Continuing with the pilot project requires the collaboration of all those involved, especially health care professionals and physicians who directly care for the population, and without whom the integrated delivery system project would not be possible. The progress stemming from the integration of services heralds a stronger integration of all services, as well as the administrative and financial structures of the integrated delivery system in the Haut-Saint-Laurent RCM.

APPENDIX 1

SOCIO-HEALTH PICTURE OF THE HAUT-SAINT-LAURENT RCM

SOCIO-HEALTH CARE PICTURE OF THE HAUT-SAINT-LAURENT RCM

CAPITATION PROJECT

RÉGIE RÉGIONALE DE LA SANTÉ ET DES SERVICES SOCIAUX DE LA MONTÉRÉGIE

MARCH 27, 2001

INTRODUCTION

The purpose of this document is to provide an updated picture of the Huntingdon CLSC region according to various data sources.

First, comparative socio-health data for the Huntingdon region and the Montérégie overall will be presented.

Next, we will establish a picture of the overall use of medical services by the Huntingdon population, in comparing it to other regions, studying data from the various delivery sites (private offices and hospitals within the region, elsewhere in the Montérégie and outside of Montérégie). These data will cast light on the quantity of medical resources available as well as the retention rate associated with the different types of services.

The last section will present the services offered by the Huntingdon CLSC compared with four control CLSCs as well as the source of clientele for the Barrie Memorial Hospital.

1. DEMOGRAPHIC DATA

The total population of the Huntingdon region will see a slight drop between 2000 and 2005, whereas there will be an overall increase of 2.2% for the Montérégie during the same period. Examination of Table 1 shows the 65-and-over age group in Huntingdon will increase less significantly than that for the Montérégie overall (5.7% and 14.1%, respectively). However, the proportion of the 65-and-over age group will remain higher in Huntingdon (14.5% in 2000, 15.3% in 2005) than in the Montérégie overall (11.1% in 2000, 12.4% in 2005). Lastly, there will be a significant reduction in the 0-17 age group, both in the Huntingdon region (11%) and overall in the Montérégie (5.6%).

TABLE 1: BREAKDOWN OF THE POPULATION OF THE HUNTINGDON TERRITORY, 4 OTHER CLSC TERRITORIES AND THE MONTÉRÉGIE ACCORDING TO VARIOUS AGE GROUPS IN 2000 AND 2005

Territory	Year	0-17 years	% tot. pop.	18-64 years	% tot. pop.	65-74 years	% tot. pop.	75 years and over	% tot. pop.	65 years and over	% tot. pop.	Total population
Huntingdon	2000	6,167	24.8%	15,085	60.7%	1,996	8.0%	1,596	6.4%	3,592	14.5%	24,844
	2005	5,488	22.2%	15,486	62.5%	2,008	8.1%	1,790	7.2%	3,798	15.3%	24,772
Variation		**-11.0%**		**2.7%**		**0.6%**		**12.2%**		**5.7%**		**-0.3%**
La Presqu'île	2000	25,884	25.1%	67,203	65.2%	6,024	5.8%	3,947	3.8%	9,971	9.7%	103,058
	2005	25,494	23.1%	73,382	66.6%	6,520	5.9%	4,790	4.3%	11,310	10.3%	110,186
Variation		**-1.5%**		**9.2%**		**8.2%**		**21.4%**		**13.4%**		**6.9%**
Seign. de Beauharnois	2000	11,439	20.7%	35,078	63.6%	4,713	8.5%	3,905	7.1%	8,618	15.6%	55,135
	2005	10,268	19.0%	34,749	64.1%	4,848	8.9%	4,307	8.0%	9,155	16.9%	54,172
Variation		**-10.2%**		**-0.9%**		**2.9%**		**10.3%**		**6.2%**		**-1.7%**
Châteauguay	2000	17,719	25.5%	44,310	63.7%	4,827	6.9%	2,651	3.8%	7,478	10.8%	69,507
	2005	15,820	22.6%	45,526	65.0%	5,302	7.6%	3,363	4.8%	8,665	12.4%	70,011
Variation		**-10.7%**		**2.7%**		**9.8%**		**26.9%**		**15.9%**		**0.7%**
La Pommeraie	2000	10,876	21.5%	31,808	63.0%	4,175	8.3%	3,637	7.2%	7,812	15.5%	50,496
	2005	9,785	19.3%	32,453	64.1%	4,414	8.7%	3,953	7.8%	8,367	16.5%	50,605
Variation		**-10.0%**		**2.0%**		**5.7%**		**8.7%**		**7.1%**		**0.2%**
Montérégie	2000	303,750	**23.0%**	867,773	**65.8%**	86,865	**6.6%**	59,928	**4.5%**	146,793	**11.1%**	1,318,316
	2005	286,626	**21.3%**	893,463	**66.3%**	95,668	**7.1%**	71,792	**5.3%**	167,460	**12.4%**	1,347,549
Variation		**-5.6%**		**3.0%**		**10.1%**		**19.8%**		**14.1%**		**2.2%**

Source: Institut de la statistique du Québec, June 2000. *Demographic perspectives for CLSC territories in Quebec, 1996-2021*. Population projections taken from the 1996 census.

2. POPULATION NEEDS BY CLSC TERRITORY

The estimated population needs of the various CLSC territories for health and social services are based on a global needs index developed by the MSSS which takes into account the following variables: Population size, age and sex breakdown, education and life expectancy in good health. According to this index, a value below 1 indicates needs that are less significant than those for Quebec as a whole, whereas a value above 1 indicates more significant needs. The population of the Huntingdon CLSC territory presents an index of 1.235, which is higher than the Montérégie average (0.931). In percentage terms, this data represents a value of 132.65% compared with the average for the Montérégie.

TABLE 2: POPULATION NEEDS ACCORDING TO A GLOBAL INDICATOR OF NEEDS

CLSC TERRITORY	Total population 2000	Total population 2005	Global indicator of needs	Global indicator of needs (base 100)
Huntingdon	24,844	24,772	1.235	132.65
La Presqu'île	103,058	110,186	0.858	92.16
Seigneurie de Beauharnois	55,135	54,172	1.144	122.88
Châteauguay	69,507	70,011	0.876	94.09
La Pommeraie	50,496	50,496	1.202	129.11
Montérégie	1,318,316	1,347,549	0.931	100.00
Quebec	7,371,765	7,509,659	1.000	

Sources: Institut de la statistique du Québec, June 2000. *Demographic perspectives for CLSC territories in Quebec, 1996-2021.*

Population projections taken from the 1996 census.

Pampalon et al. *Un indicateur global de besoins pour l'allocation interrégionale de ressources publiques en santé et services sociaux* (A comprehensive needs indicator for inter-regional allocation of health and social service resources) MSSS 1997.

3. SOCIOECONOMIC AND HEALTH DATA

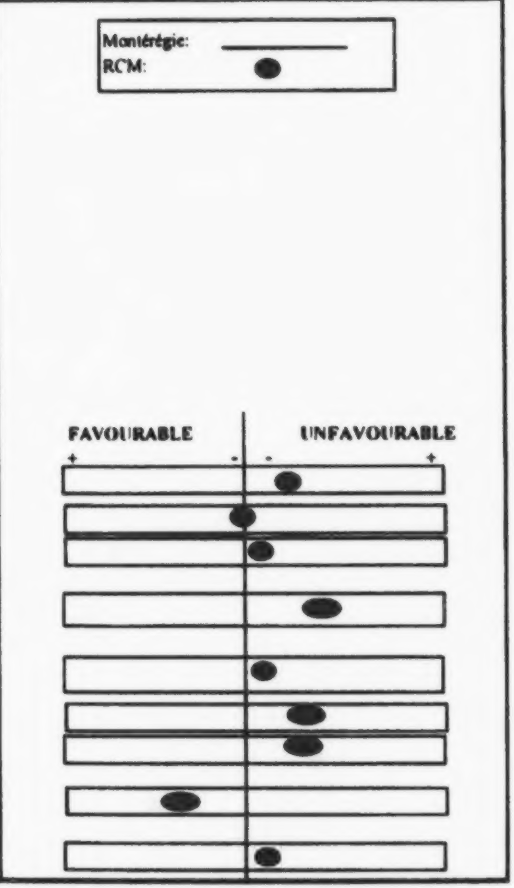
We present here a set of five tables on the socioeconomic and health data for the population of the Huntingdon territory, the control territories and the Montérégie. Note that for seven of the nine variables available, the population covered by the Huntingdon CLSC presents an unfavourable situation when compared with the Montérégie overall. These unfavourable variables include the proportion of people living below the poverty line (18.9%), the proportion of residents receiving social security (10.1%), the proportion of people living alone (9.3%) and the ratio of people having less than 9 years of education (23.6%).

Source: Statistics Canada. 1996 census.

HUNTINGDON CLSC

INDICATORS	*VALUES*		
Demographic indicators	**Montérégie**	**Huntingdon CLSC**	**Rank**
1. Total population (1996)	1,255,950	22,010	
2. Population growth (%) (1991-1996)	4.8	0.7	
3. Population density (pers./km²) (1996)	113.8	19.2	
4. Breakdown by age (1996)			
0-14 years	259,775	4,625	
15-64 years	867,110	14,240	
65 years and over	128,930	3,180	
5. Language spoken at home (%) (1996)			
French	88.2	63.6	
English	9.4	35.7	
Other	2.5	0.7	
Socioeconomic and health indicators	**Montérégie**	**CLSC**	**Rank**
6. Dependency ratio (%) (1996)	44.8	54.8	
7. Unemployment rate 15 years and over (%) (1996)	9.3	9.3	
8. Unemployment rate 25 years and over (%) (1996)	8.0	8.2	
9. Proportion of the population with less than 9 years of schooling (%) (1996)	16.3	23.6	
10. Proportion of people living below the poverty line (%) (1996)	18.0	18.9	
11. Social security recipients (%) (June 1999)	7.3	10.1	
12. Average family income ($) (1996)	$52,490	$43,448	
13. Proportion of people renting their dwelling (%) (1996)	34.0	22.7	
14. Proportion of people living alone (%) (1996)	8.6	9.3	

REPRESENTATION

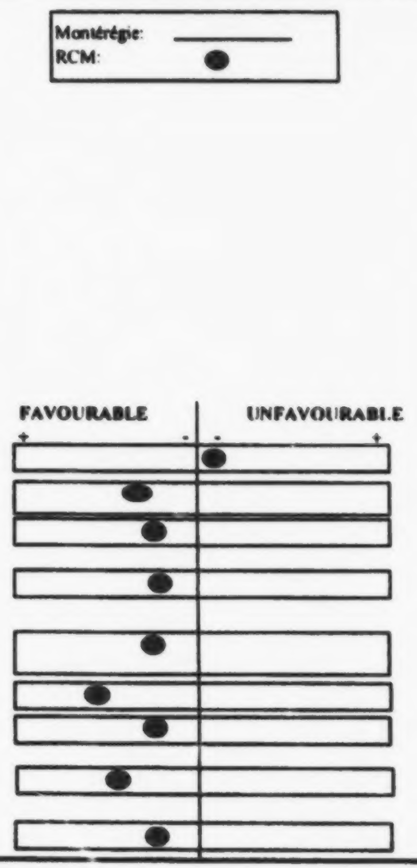


Source: Statistics Canada. 1996 census.

LA PRESQU'ÎLE CLSC

INDICATORS	*VALUES*		
Demographic indicators	**Montérégie**	**La Presqu'île CLSC**	**Rank**
1. Total population (1996)	1,255,950	95,320	
2. Population growth (%) (1991-1996)	4.8	12.8	
3. Population density (pers./km²) (1996)	113.8	111.8	
4. Breakdown by age (1996)			
0-14 years	259,775	21,630	
15-64 years	867,110	64,925	
65 years and over	128,930	8,725	
5. Language spoken at home (%) (1996)			
French	88.2	75.7	
English	9.4	23.4	
Other	2.5	0.9	
Socioeconomic and health indicators	**Montérégie**	**CLSC**	**Rank**
6. Dependency ratio (%) (1996)	44.8	46.8	
7. Unemployment rate 15 years and over (%) (1996)	9.3	7.3	
8. Unemployment rate 25 years and over (%) (1996)	8.0	6.1	
9. Proportion of the population with less than 9 years of schooling (%) (1996)	16.3	13	
10. Proportion of people living below the poverty line (%) (1996)	18.0	13.2	
11. Social security recipients (%) (June 1999)	7.3	3.7	
12. Average family income ($) (1996)	$52,490	$56,856	
13. Proportion of people renting their dwelling (%) (1996)	34.0	23.7	
14. Proportion of people living alone (%) (1996)	8.8	6.9	

REPRESENTATION

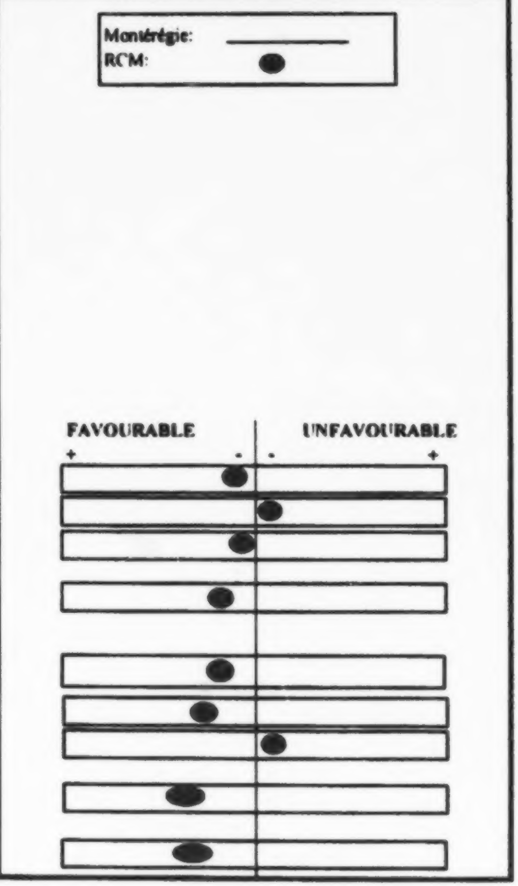


Source: Statistics Canada. 1996 census.

CHÂTEAUGUAY CLSC

INDICATORS	*VALUES*		
Demographic indicators	**Montérégie**	**Châteauguay CLSC**	**Rank**
1. Total population (1996)	1,255,950	60,155	
2. Population growth (%) (1991-1996)	4.8	4.6	
3. Population density (pers./km² (1996)	113.8	234.6	
4. Breakdown by age (1996)			
0-14 years	259,775	13,180	
15-64 years	867,110	40,835	
65 years and over	128,930	6,155	
5. Language spoken at home (%) (1996)			
French	88.2	73.7	
English	9.4	24.5	
Other	2.5	1.8	
Socioeconomic and health indicators	**Montérégie**	**CLSC**	**Rank**
6. Dependency ratio (%) (1996)	44.8	47.3	
7. Unemployment rate 15 years and over (%) (1996)	9.3	9.1	
8. Unemployment rate 25 years and over (%) (1996)	8.0	7.8	
9. Proportion of the population with less than 9 years of schooling (%) (1996)	16.3	14.7	
10. Proportion of people living below the poverty line (%) (1996)	18.0	15.3	
11. Social security recipients (%) (June 1999)	7.3	5.8	
12. Average family income ($) (1996)	$52,490	$51,328	
13. Proportion of people renting their dwelling (%) (1996)	34.0	23.5	
14. Proportion of people living alone (%) (1996)	8.6	6.1	

REPRESENTATION

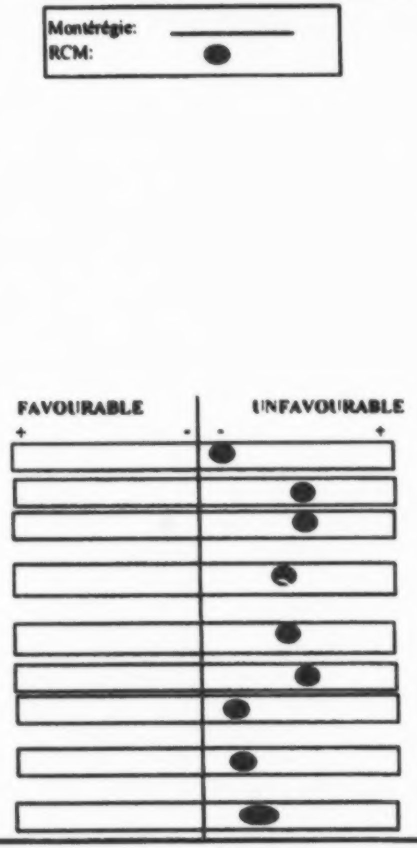


Source: Statistics Canada. 1996 census.

SEIGNEURIE DE BEAUHARNOIS CLSC

INDICATORS	*VALUES*		
Demographic indicators	**Montérégie**	**Seigneurie de Beauharnois CLSC**	**Rank**
1. Total population (1996)	1,255,950	54,910	
2. Population growth (%) (1991-1996)	4.8	-0.30	
3. Population density (pers/km^2) (1996)	113.8	157.1	
4. Breakdown by age (1996)			
0-14 years	259,775	10,255	
15-64 years	867,110	36,990	
65 years and over	128,930	7,685	
5. Language spoken at home (%) (1996)			
French	88.2	97.7	
English	9.4	2.0	
Other	2.5	0.3	
Socioeconomic and health indicators	**Montérégie**	**CLSC**	**Rank**
6. Dependency ratio (%) (1996)	44.8	48.5	
7. Unemployment rate 15 years and over (%) (1996)	9.3	13.1	
8. Unemployment rate 25 years and over (%) (1996)	8.0	11.7	
9. Proportion of the population with less than 9 years of schooling (%) (1996)	16.3	22.6	
10. Proportion of people living below the poverty line (%) (1996)	18.0	22.7	
11. Social security recipients (%) (June 1999)	7.3	12.2	
12. Average family income ($) (1996)	$52,490	$45,177	
13. Proportion of people renting their dwelling (%) (1996)	34.0	39.7	
14. Proportion of people living alone (%) (1996)	8.6	11.3	

REPRESENTATION

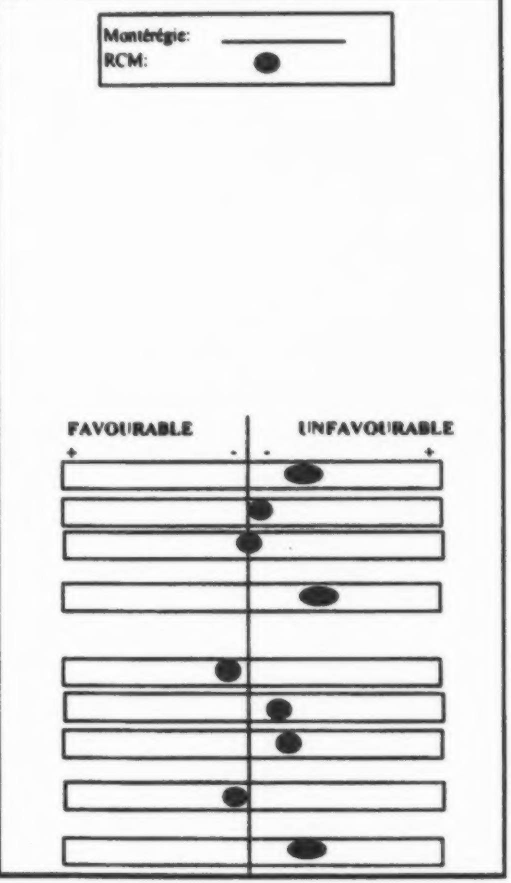


Source: Statistics Canada. 1996 census.

LA POMMERAIE CLSC

INDICATORS	*VALUES*		
Demographic indicators	**Montérégie**	**La Pommeraie CLSC**	**Rank**
1. Total population (1996)	1,255,950	49,280	
2. Population growth (%) (1991-1996)	4.8	1.8	
3. Population density (pers./km^2) (1996)	113.8	28.9	
4. Breakdown by age (1996)			
0-14 years	259,775	9,880	
15-64 years	867,110	32,265	
65 years and over	128,930	7,035	
5. Language spoken at home (%) (1996)			
French	88.2	75.5	
English	9.4	24	
Other	2.5	0.5	
Socioeconomic and health indicators	**Montérégie**	**CLSC**	**Rank**
6. Dependency ratio (%) (1996)	44.8	52.4	
7. Unemployment rate 15 years and over (%) (1996)	9.3	9.8	
8. Unemployment rate 25 years and over (%) (1996)	8.0	8.0	
9. Proportion of the population with less than 9 years of schooling (%) (1996)	16.3	20.2	
10. Proportion of people living below the poverty line (%) (1996)	18.0	16.5	
11. Social security recipients (%) (June 1999)	7.3	8.4	
12. Average family income ($) (1996)	$52,490	$45,153	
13. Proportion of people renting their dwelling (%) (1996)	34.0	32.7	
14. Proportion of people living alone (%) (1996)	8.6	10.4	

REPRESENTATION



Source: Statistics Canada. 1996 census.

4. USE OF MEDICAL SERVICES

4.1 Total consumption of medical services in 1999-2000

Consultation of the table in this section shows that the population of the Huntingdon territory's total actual consumption was below the forecast consumption, both for general practitioner (16.6 FTE vs. 21.8 FTE) and specialist (17.9 FTE vs. 23.4 FTE) services. In addition, most the general practitioner services (52.8%) were consumed in private practice, with 43.7% consumed in hospitals. Most of the specialist services (83.4%) were consumed in hospital, with only 16.6% in private practice.

TABLE 4.1 TOTAL CONSUMPTION OF MEDICAL SERVICES IN 1999-2000

GENERAL PRACTITIONERS

	PLACE OF DELIVERY								TOTAL CONSUMPTION		
	PRIVATE OFFICES		HOSPITAL		CLSC		OTHER		ACTUAL		PLANNED
TERRITORY OF RESIDENCE	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE
Huntingdon	8.8	**52.8%**	7.2	**43.7%**	0.6	**3.4%**	0.0	**0.1%**	16.6	**100%**	21.8
Seigneurie de Beauharnois	25.8	**54.4%**	15.2	**32.1%**	5.2	**11.0%**	1.1	**2.4%**	47.4	**100%**	50.1
La Presqu'île	54.3	**71.9%**	14.9	**19.7%**	4.6	**6.1%**	1.8	**2.3%**	75.5	**100%**	84.8
Châteauguay	30.2	**50.6%**	23.4	**39.2%**	5.1	**8.5%**	1.0	**1.7%**	59.6	**100%**	57.6
La Pommeraie	23.9	**44.3%**	18.1	**33.6%**	11.4	**21.2%**	0.5	**0.9%**	53	**100%**	45.5
Montérégie	651.8	**57.9%**	325.1	**28.9%**	134.3	**11.9%**	13.6	**1.2%**	1,124.8	**100%**	1,115.7

SPECIALISTS

	PLACE OF DELIVERY								TOTAL CONSUMPTION		
	PRIVATE OFFICES		HOSPITAL		CLSC		OTHER		ACTUAL		PLANNED
TERRITORY OF RESIDENCE	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE
Huntingdon	3.0	**16.6%**	15.0	**83.4%**	0.0	**0.0%**	0.00	**0.0%**	17.9	**100%**	23.4
Seigneurie de Beauharnois	9.2	**19.4%**	38.3	**80.6%**	0.0	**0.0%**	0.02	**0.0%**	47.6	**100%**	51.1
La Presqu'île	20.8	**26.7%**	56.9	**73.2%**	0.0	**0.0%**	0.01	**0.0%**	77.7	**100%**	80.8
Châteauguay	11.1	**18.5%**	49.1	**81.5%**	0.0	**0.0%**	0.02	**0.0%**	60.3	**100%**	53.4
La Pommeraie	6.1	**18.6%**	26.7	**81.4%**	0.0	**0.0%**	0.01	**0.0%**	32.8	**100%**	40.5
Montérégie	258.1	**23.6%**	835.7	**76.3%**	0.0	**0.0%**	1.19	**0.1%**	1,095.0	**100%**	1,130.6

Source: CONSOM Bank 1999-2000.

4.2 CONSUMPTION OF MEDICAL SERVICES IN A PRIVATE OFFICE IN 1999-2000

On examination of Table 4.2, it can be seen that 71.3% of consumption in general practitioners' private offices by the Huntingdon population occurred in the territory of residence. In the case of specialist services in private offices, the proportion consumed in the territory of residence drops to 17.2%, with almost 55% of total consumption occurring in other territories in the Montérégie.

TABLE 4.2 CONSUMPTION OF MEDICAL SERVICES IN PRIVATE OFFICES IN 1999-2000

GENERAL PRACTITIONERS

TERRITORY OF RESIDENCE	Huntingdon		Seign. de Beauharnois		La Presqu'île		Châteauguay		La Pommeraie		Montérégie	
TERRITORY OF DELIVERY	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
CLSC of residence	6.2	71.3%	20.0	77.4%	39.1	72.1%	23.5	78.0%	20.2	84.4%		
Other Montérégie CLSC	1.6	18.4%	3.9	15.2%	4.2	7.7%	1.8	6.1%	2.3	9.7%		
Montérégie total	7.8	89.7%	23.9	92.6%	43.3	79.8%	25.4	84.1%	22.5	94.1%	583.6	89.5%
Outside of region	0.9	10.3%	1.9	7.4%	11.0	20.2%	4.8	15.9%	1.4	5.9%	68.3	10.5%
Total consumption	8.8	100.0%	25.8	100.0%	54.3	100.0%	30.2	100.0%	23.9	100.0%	651.8	100.0%

SPECIALISTS

TERRITORY OF RESIDENCE	Huntingdon		Seign. de Beauharnois		La Presqu'île		Châteauguay		La Pommeraie		Montérégie	
TERRITORY OF DELIVERY	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
CLSC of residence	0.5	17.2%	6.5	70.4%	4.9	23.6%	5.6	50.5%	2.8	45.9%		
Other Montérégie CLSC	1.6	54.9%	1.2	13.3%	3.3	15.9%	0.6	5.7%	2.2	36.4%		
Montérégie total	2.1	72.2%	7.7	83.7%	8.2	39.5%	6.3	56.2%	5.0	82.2%	195.338	75.7%
Outside of region	0.8	27.8%	1.5	16.3%	12.6	60.5%	4.9	43.8%	1.1	17.8%	62.796	24.3%
Total consumption	3.0	100.0%	9.2	100.0%	20.8	100.0%	11.1	100.0%	6.1	100.0%	258.134	100.0%

Source: CONSOM Bank 1999-2000

4.3 CONSUMPTION OF MEDICAL SERVICES IN SHORT-STAY HOSPITALS IN 1999-2000

We note that 44.8% of the total consumption of general practitioner services in short-stay hospitals by the population of the Huntingdon territory occurred in the territory of residence. For specialist services, the proportion of consumption occurring in the territory of residence is estimated at approximately 15% of the overall consumption, with almost 38% of the consumption occurring in other territories of the Montérégie.

Table 4.3 CONSUMPTION OF MEDICAL SERVICES IN SHORT-STAY HOSPITALS IN 1999-2000

GENERAL PRACTITIONERS

TERRITORY OF RESIDENCE	Huntingdon		Seign. de Beauharnois		La Presqu'île		Châteauguay		La Pommeraie		Montérégie	
TERRITORY OF DELIVERY	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
Short-stay hospital within or in close proximity to the CLSC territory of residence(2)	3.3	**44.8%**	10.8	**71.0%**	5.6	**37.6%**	19.4	**83.2%**	14.9	**82.4%**		
Other Montérégie short-stay hospital	1.3	**17.8%**	3.1	**20.5%**	0.3	**2.3%**	0.4	**1.7%**	1.7	**9.5%**		
Total Montérégie short-stay hospitals	4.5	**62.7%**	13.9	**91.4%**	5.9	**39.9%**	19.8	**84.9%**	16.6	**91.9%**	265.9	**81.8%**
Outside of region (3)	2.7	**37.3%**	1.3	**8.6%**	9.0	**60.1%**	3.5	**15.1%**	1.5	**8.1%**	59.2	**18.2%**
Total consumption	7.2	**100.0%**	15.2	**100.0%**	14.9	**100.0%**	23.4	**100.0%**	18.1	**100.0%**	325.1	**100.0%**

SPECIALISTS

TERRITORY OF RESIDENCE	Huntingdon		Seign. de Beauharnois		La Presqu'île		Châteauguay		La Pommeraie		Montérégie	
TERRITORY OF DELIVERY	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
Short-stay hospital within or in close proximity to the CLSC territory of residence(2)	2,2	**14.8%**	22.2	**57.9%**	15.0	**26.4%**	22.8	**46,4%**	10,2	**38.4%**		
Other Montérégie short-stay hospital	5,6	**37.2%**	5.0	**13.0%**	0.9	**1.5%**	1.8	**3,7%**	5,8	**21,6%**		
Total Montérégie short-stay hospitals	7,8	**52.0%**	27.2	**70.9%**	15.9	**27.9%**	24.6	**50,1%**	16,0	**60,0%**	477.8	**57.2%**
Outside of region (3)	7,2	**48.0%**	11.1	**29.1%**	41.0	**72.1%**	24.5	**49,9%**	10,7	**40,0%**	357.9	**42.8%**
Total consumption	15,0	**100.0%**	38.3	**100.0%**	56.9	**100.0%**	49.1	**100,0%**	26,7	**100,0%**	835.7	**100.0%**

Source: CONSOM Bank 1999-2000.

(1) For this calculation, the Kateri Memorial Hospital was included in the short-stay hospitals of the Montérégie.

(2) The notion of proximity applies to the territory of Presqu'Île (not having a short-stay hospital) whose population consults at the Suroît regional hospital, located in a neighbouring or in close proximity to the CLSC territory.

(3) The data outside of the region include all institutions outside the region as well as the CHSLDs in the Montérégie.

4.4 RETENTION OF THE CLIENTELE IN GENERAL PRACTITIONERS' PRIVATE OFFICES

Data taken from the RAMQ 1998-1999 database on medical acts in private offices by general practitioners confirm the percentage of retention of the population of the Huntingdon territory at more than 75%. In addition, we note that the percentage of retention in Montérégie for the same population is estimated at about 93%.

TABLE 4.4 RETENTION OF CLIENTELE IN GENERAL PRACTITIONERS' PRIVATE OFFICES

CLSC TERRITORY OF RESIDENCE	Consumption in the territory of residence(1)	Retention in the territory of residence	Use in Montérégie (1)	Retention in Montérégie
Huntingdon	45,026	75.9%	54,899	92.6%
La Presqu'Île	260,162	78.1%	279,306	83.9%
Seigneurie de Beauharnois	113,250	71.9%	148,093	94.0%
Châteauguay	144,138	81.5%	152,882	86.4%
La Pommerale	123,572	87.4%	135,322	95.7%

Source: RAMQ 1998-1999 database of medical acts. The units of measurement correspond to medical acts.

5. USE OF SERVICES OFFERED BY INSTITUTIONS

The following tables illustrate 1) the source of clientele using services at Barrie Memorial Hospital and 2) the consumption of physical health care services at Huntingdon CLSC as well as in the four control CLSCs. In Table 5.1, the percentages on the source of clientele using Barrie Memorial Hospital services have been calculated from data in hospitalization days consumed by the population of the various CLSC territories. The percentage of dependence of each territory's population on this institution was calculated according to the following formula:

Total of hospitalization days for the population of a CLSC territory x 100

Total consumption in hospitalization days for the territory's population

TABLE 5.1 SOURCE OF BARRIE MEMORIAL HOSPITAL CLIENTELE BY CLSC TERRITORY FOR ALL SHORT-STAY HOSPITALIZATIONS

CLSC	BARRIE MEMORIAL HOSPITAL		% DEPENDENCE	
	1998-1999	1997-1998	1998-1999	1997-1998
Huntingdon	76.52%	77.80%	43.72%	43.65%
Jardins du Québec	13.54%	10.93%	8.30%	6.97%
Seigneurie de Beauharnois	6.73%	9.25%	1.48%	1.85%
Châteauguay	0.84%	less than 5%	0.20%	not determined
Haut-Richelieu	0.69%	0.51%	0.11%	0.01%
Other CLSCs less than 5%	0.43%	0.41%		
Montérégie TOTAL	98.77%	98.91%	1.28%	1.25%

Source: AHQ. Barrie Memorial Hospital performance analysis 1998-1999, DRG file, MSSS, Quebec.

TABLE 5.2

CONSUMPTION OF PHYSICAL HEALTH SERVICES BY CLSC

HUNTINGDON CLSC

SERVICES	Centre of activity	Unit of measure	1998-1999	1999-2000
Info-Santé	6092	calls	3 ,252	2 ,710
Specimens	6606	specimens	3 ,482	4 ,725
Current health services	6307	users	1 ,114	1 ,141
Nursing care at home	6170	users	923	919
Mother and child health	6510	users	1 ,386	1 ,024

SEIGNEURIE DE BEAUHARNOIS CLSC

SERVICES	Centre of activity	Unit of measure	1998-1999	1999-2000
Info-Santé	6092	calls	14,386	13,617
Specimens	6606	specimens	1 ,818	71,834 (?)
Current health services	6307	users	10,374	n/d
Nursing care at home	6170	users	1 ,621	n/d
Mother and child health	6510	users	1 ,924	n/d

LA PRESQU'ÎLE CLSC

SERVICES	Centre of activity	Unit of measure	1998-1999	1999-2000
Info-Santé	6092	calls	1,372	9 ,009
Specimens	6606	specimens	19,710	22,625
Current health services	6307	users	8 ,722	10,347
Nursing care at home	6170	users	1 ,542	1 ,498
Mother and child health	6510	users	2 ,684	2 ,451

CHÂTEAUGUAY CLSC

SERVICES	Centre of activity	Unit of measure	1998-1999	1999-2000
Info-Santé	6092	calls	9 ,792	8 ,714
Specimens	6606	specimens	25,358	26,359
Current health services	6307	users	10,267	n/d
Nursing care at home	6170	users	1 ,639	n/d
Mother and child health	6510	users	2 ,042	n/d

LA POMMERAIE CLSC

SERVICES	Centre of activity	Unit of measure	1998-1999	1999-2000
Info-Santé	6092	calls	7 ,431	6 ,285
Specimens	6606	specimens	34,316	n/d
Current health services	6307	users	10,167	n/d
Nursing care at home	6170	users	1 ,564	n/d
Mother and child health	6510	users	2 ,489	n/d

Source: Report AS-471 on CLSC, page 650.

CONCLUSION

The data presented in the preceding pages was taken from various information systems, including the 1996 census, the MED-ECHO database, the CONSOM database and the RAMQ database on physician remuneration. These data make it possible to draw up a picture isolating the various realities of the population of the Huntingdon territory, its needs, the availability of resources and the use of the various services, although without offering any cross-reference between data.

The constitution of an integrated database over 5 years (demographic, financial and service consumption data) currently underway as part of the capitation project is likely to stir considerable interest since it will enable cross-referencing and follow-up of numerous data. Information that could be exploited from this database includes monitoring the consumption of medications associated with various diagnoses, the consumption of medical services according to the age of the clientele and the transfer of hospital clientele to front-line services, etc.

By way of analyses made possible by the creation of this database, it should be possible to access information enabling an improvement in our knowledge of the population of the Huntingdon territory, its use of health care services and the associated costs, as well as enabling an evaluation of the impacts of the integrated delivery system project on the Huntingdon territory.

APPENDIX 2

Supplemental data analysis

SUPPLEMENTAL DATA ANALYSIS

The nurses can list up to three reasons for an intervention on the form. On average, 1.1 intervention reasons were identified per patient, for each centre. The most frequent reasons for interventions for each health centre are reported below, taking into account a cumulative of the first, second and third intervention reasons given on the form. A subsequent analysis could also take into account intervention reasons per period.

In total, 2,812 intervention reasons were reported for Huntingdon, the ten most commonly cited being as follows:

1. Code 3800: Preventive vaccinations and immunizations (n = 528 or 18.8% of reasons)
2. Code 1801: Hypertension (n = 493 or 17.5% of reasons)
3. Code 1900: Respiratory problems and disorders (n = 175 or 6.2% of reasons)
4. Code 2400: Poorly defined signs and symptoms (n = 148 or 5.89%)
5. Code 1305: Diabetes (n = 145 or 5.16%)
6. Code 1402: Coagulation anomalies (n = 133 or 4.73%)
7. Code 2404: Poorly defined symptoms related to the respiratory system (n = 123 or 4.37%)
8. Code 1700: Ear infection and disorders (n = 108 or 4.30%)
9. Code 2613: Lacerations, cuts and grazes (n = 93 or 3.31%)
10. Code 2409: Poorly defined signs and symptoms—general (n = 69 or 2.45%)

In total, 1,321 intervention reasons were reported for Ormstown, the ten most commonly cited being as follows:

1. Code 5809: Request for health advice/information: Examinations, screenings and investigations (n = 223 or 16.9%)
2. Code 3800: Preventive vaccinations and immunizations (n = 165 or 12.5%)
3. Code 1801: Hypertension (n = 133 or 10.1%)
4. Code 2403: Poorly defined symptoms related to the respiratory system (n = 111 or 8.4%)
5. Code 2412: Poorly defined signs and symptoms—abnormal results from diagnostic imaging (...) without diagnosis (n = 93 or 7.0%)
6. Code 2400: Poorly defined signs and symptoms (n = 84 or 6.4%)
7. Code 1402: Coagulation anomalies (n = 73 or 5.53%)
8. Code 5813: Request for health advice/information: Medication (n = 47 or 3.6%)
9. Code 1700: Ear infection and disorders (n = 41 or 3.10%)
10. Code 1800: Circulatory diseases and disorders (n = 33 or 2.5%)

The nurses can also list up to three acts per form. Approximately 1.7 acts were identified per patient—an average of 1.9 in Huntingdon and 1.3 in Ormstown. A list of the most frequent acts for each health centre is given below, taking into account the cumulative of the first, second and third acts entered on the form. A subsequent analysis could also take into account acts per period.

In total, 4,503 acts (on average, 1.9 acts per patient) were reported for Huntingdon, the ten most commonly cited being as follows:

1. Code 6703: Vital signs (n = 1362 or 26.7%)
2. Code 6516: Nursing evaluation or reevaluation (n = 893 or 175%)
3. Code 6709: Gathering information on the user for the purpose of follow-up (n = 881 or 17.3%)
4. Code 6110: Infiltration and injection of drugs (n = 620 or 12.2%)
5. Code 6702: Height and weight (n = 374 or 7.3%)
6. Code 6400: Professional recommendations and prescriptions (n = 164 or 32%)
7. Code 6704: Medication follow-up and control (n = 158 or 31%)
8. Code 6123: Wound care and dressings (n = 109 or 2.1%)
9. Code 6623: Capillary blood sugar levels (n = 78 or 1.5%)
10. Code 7300: Physical health and safety teaching (n = 67 or 1.3%)

In total, 1,473 acts (on average, 1.3 acts per patient) were reported for Ormstown, the ten most commonly cited being as follows:

1. Code 6400: Professional recommendations and prescriptions (n = 313 or 21.3%)
2. Code 7300: Physical health and safety teaching (n = 222 or 15.1%)
3. Code 6800: Immunization (n = 203 or 13.8%)
4. Code 6703: Vital signs (n = 159 or 10.8%)
5. Code 6406: Prescriptions and professional recommendations – professional recommendation (n = 141 or 9.6%)
6. Code 6704: Medication follow-up and control (n = 69 or 4.7%)
7. Code 6401: Prescriptions and professional recommendations – medical prescription (n = 66 or 4.5%)
8. Code 6140: Anticoagulation therapy (n = 56 or 3.80%)
9. Code 6114: Ear care and syringing (n = 39 or 2.65%)
10. Code 6110: Infiltration and injection of drugs (n = 47 or 3.19%)

APPENDIX 3

Testimonials of satisfaction

2412 Route 202
Franklin, Quebec, J0S 1E0

February 21, 2001

Dear Mr. Rho,

On behalf of my parents, Rhoda and Robert McFarlane of Howick, I am writing to express appreciation with regard to the Nurse in Private Clinic Program which has been of extreme benefit to both of my parents for the past year. At ages 85 and 87 respectively, and given their medical needs in the past 3-4 years, the inception of this program has been a great factor in assisting them to maintain a certain level of health as well as a degree of autonomy, that permits them to remain in their own surroundings and home.

Since Amy Tolhurst/Robin Ovans have been working with them, their level of confidence regarding their health has improved and the certainty of knowing that whatever health issue arises, they will have a knowledgeable, caring individual that can immediately give advice or make contact with the doctor/resource if needed.

As my sisters live in western Canada and I carry a full time position teaching, this program has reduced my stress as I was often unable to make the necessary contacts quickly with their physicians and at present their medical needs are much better served.

Recently, my mother has been diagnosed with skin cancer. Amy has been invaluable in assisting us in appointments with a variety of specialists at different locations, with info regarding transportation and providing support prior to surgeries. She was instrumental in a home visit to my father in discovering that he needed immediate attention due to fluid on the lungs.

We are only one case that can testify to the benefits and real need for such a service for seniors living independently.

Sincerely, Catherine McFarlane [illegible]
Rhoda M. McFarlane
Robert W. McFarlane

cc. Dr. Kevin Brissette

APPENDIX 4

List of training sessions

TRAINING SESSIONS			
Subject	Clientele	Dates	Resources
The nurse and physical examination	Nurses from the three institutions	Winter 2001	Université du Québec à Trois-Rivières
Measuring blood pressure and the monitoring and referral protocol	Nurses from the three institutions	Spring 2001	To be defined
Training on follow-up in the community	Mental health personnel	Phase 1: March 22 to May 10, 2000	Johanne Marois, Centre Pro-développement inc. Catherine Vallée, occupational therapist, Pierre-Janet hospital
Training on psychosocial rehabilitation	Mental health personnel	Phase 2: September to December 2000	Catherine Vallée, occupational therapist, Pierre-Janet hospital
Training on crisis intervention	Mental health personnel	October 2000	Georges Lassonde, psychologist
Approach to and caring for the dying	Family auxiliaries	December 2000	France Hudon, Cegep Marie-Victorin
Training on medical-nursing protocols (toolbox)	Physicians and nurses from the three institutions	June 14-20, 2001	Lucie Tessier, CLSC Huntingdon Jean Trudel, pharmacist, BMH
Quit smoking	Nurse	January 2000	Dr. Blouin and Dr. St-Cerny, RRSS-Montérégie
Training on family-type resources in mental health	Owner of the resource	September 2000	Dr. Renée Lafrenière and Yves Barreau, Huntingdon CLSC
Training on the capitation project	Personnel working on the capitation project	March 22, 2000	Université de Montréal
Total 10			

APPENDIX 5

Communication plan

HAUT SAINT-LAURENT CAPITATION PROJECT

Julie Trudel

Communications department
Montérégie Regional Health Board

April 2000

1. Analysis of the situation

1.1 Background to the mandate

As part of the capitation project in the Haut Saint-Laurent regional county municipality (RCM) and in the aim of contributing to the success of the project, the steering committee wishes to implement methods for communicating with the population, the personnel at the institutions involved and its other partners. To do so, the project director, in conjunction with the executive directors of the Barrie Memorial Hospital and the Huntingdon CLSC have enlisted the services of the communications department of the Montérégie Regional Health Board (RRSSS). This communications plan proposes a strategic communication activities plan to be implemented as part of the Haut Saint-Laurent RCM capitation project.

1.2 Situation

The Haut Saint-Laurent RCM capitation project is currently underway and all projects will be ready for startup around the month of May. The project evaluation team has already interviewed RCM residents and is preparing to establish contact with personnel at the institutions in question, i.e. Barrie Memorial Hospital, Huntingdon CLSC, Huntingdon CHSLD and private clinics in the region. Consequently, there is a pressing need to present the capitation project to the Haut Saint-Laurent RCM population as well as to institution personnel, for the following reasons:

- Any project which introduces change raises insecurity in those affected. To reduce the uncertainty within the population caused by the announcement of the capitation project, it is important to answer key questions. The steering committee must take the initiative in informing the population to avoid the latter giving credence to rumours in circulation.

- With the introduction of the capitation concept, the healthcare institutions are encouraged to urge the population of their RCM to "consume" healthcare services in their region. To do so, they must raise awareness of the services available and convince the population of their quality.

- Regarding institution personnel, the capitation project promotes the creation of a climate of collaboration between the institutions and coordination of activities. However, in the past, the institutions involved in the project were not amenable to regular collaboration. This type of "merger of activities" is made significantly easier through common communication networks.

1.3 Issues

- Ensure that the population of the Haut Saint-Laurent RCM increasingly uses the services offered by the region's healthcare institutions.

- Obtain the collaboration of all institution personnel such that they participate in the smooth implementation of the project and act as its ambassadors within the community.

In the Haut Saint-Laurent RCM, close to 10% of employed people work in the healthcare and social services sector[1]. These people who live in the RCM are ideal spokespersons for raising awareness of the project and praising its benefits to the community. However, if they project a negative image of the project, it will be very difficult to rally the population, regardless of the communication methods implemented.

- Recruit a maximum number of partners who support the capitation project from among community organizations, journalists, mayors of municipalities and members of parliament.

- Preserve the population's trust in the healthcare institutions in the Haut Saint-Laurent RCM.

- Maintain the population's involvement in healthcare institutions (volunteer work, women's auxiliaries, foundations, etc.).

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[1] MRC employment statistics (1996) show that of the some 7,507 residents of the Haut Saint-Laurent who are employed, 743 work at a healthcare and social services institution.

2. Target population

The Haut Saint-Laurent capitation project involves changes for the personnel at the institutions in question and for the population, which means that these two groups must be kept informed throughout the project. Moreover, throughout the project, contact will be established with various privileged partners. These three target groups each have different information needs, as follows:

2.1 The population of the Haut Saint-Laurent RCM

This population includes all residents of the Haut Saint-Laurent RCM, i.e. over 25,000 people[2], in 9,000 households.

2.2 Personnel at the institutions involved in the project

This population includes all personnel at Barrie Memorial Hospital, Huntingdon CLSC, Huntingdon CHSLD and private clinics in the region. The personnel can be broken down as follows:

Among in-house personnel, it is particularly important to target physicians, both directly and through each institution's Council of Physicians, Dentists and Pharmacists (CPDP). They are the key partners in this project. However, at this stage, it appears they have been kept well informed and have been significantly involved in the project, which is why they will not be specifically targeted by the communication methods proposed herein.

2.3 Other partners in the project

As part of implementing the capitation project, the Montérégie Regional Health Board, the steering committee, the project director and the clinical committee will contact various partners whose support for the project is particularly important:

- The **media** are crucial for presenting the project to the population.
- **Community and volunteer organizations** contribute to improving the general health condition of the population of the RCM and have already shown a pressing need to be kept informed about the key issues of the project.
- The **mayors** of municipalities in the Haut Saint-Laurent RCM: Dundee, Elgin, Franklin, Godmanchester, Havelock, Hinchinbrooke, Howick, Huntington, Ormstown, Saint-Anicet, Saint-Jean-Chrysostôme, Saint-Chrysostôme, Saint-Malachie-d'Ormstown, Sainte-Barbe and Très-Saint-Sacrement.

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[2] Population estimated at over 25,128 inhabitants by Statistics Canada in March 1999.

- Provincial and federal **members of parliament**.

3. Communication objectives

1) Explain the capitation project to the population of the Haut Saint-Laurent RCM.

2) Rally institution personnel behind the capitation project.

3) Explain to the population the various healthcare services offered in the RCM.

4) Create a positive perception of the project with privileged partners, i.e. community organizations, the media, mayors and members of parliament.

4. Communication focus

To give the capitation project a clearly defined identity, a slogan or **communication focus** specific to the project must be determined. The communication focus proposed is as follows:

To be determined.

5. Messages

The three populations identified each have different information needs. To meet these needs, messages must be adapted to the target population.

5.1 Basic message to the population

The message to the population must explain **what a capitation project involves** and **what are the changes** that such a project will introduce in terms of healthcare offered, while emphasizing **the advantages** for the population of implementing a capitation model, i.e.:

- more services available at the local level
- a local healthcare system focused on the population's needs
- better follow-up and continuity of care

It will also be important to inform the population about the **healthcare and social services offered** in the RCM through the capitation project. This will encourage people to use regional healthcare services and will show them that healthcare will be improved through the capitation project. It will also be necessary to give the population a **single telephone number** which they can call for information about services available in the region.

It is important to be selective with respect to the information conveyed to the population and to be careful not to inundate them with details they do not really need. Repeating the same basic message in all communications increases the likelihood it will be received and understood.

However, in releasing information, careful attention must be paid to the points that could make the population uncomfortable about the project:

- **Do not focus on the new, experimental nature of the capitation project.** In fact, although this aspect of the project is very attractive to institution personnel, we must be very careful to ensure the population does not feel like guinea pigs in an experiment. The elderly in particular feel very insecure about change and prefer continuity over reform. As approximately 18% of the RCM population is over age 60, close attention must be paid to this point.

- **Clearly indicate that the population will incur no additional costs due to this project and will at all times retain the right to choose their own physician and institution where they receive care.** It would appear that a part of the population may have doubts about this subject following an inaccurate interpretation of the expression "money follows the client". It would be wise to avoid this ambiguous expression in messages aimed at the population.

5.2 The personnel at the institutions involved in the project

The messages designed for the population can serve to answer questions from personnel at the institutions involved in the project. However, more detailed information must be added to address the employees' **specific concerns** (launching various clinics, hiring personnel associated with the project, etc.) and personnel given data on the **project results** (summary results, population satisfaction, planned follow-up to the project, etc.) so as to motivate them and encourage their collaborative efforts. In this way, they will feel more involved in the capitation project. It is also important to show employees how the capitation project will **benefit** them:

- promote inter-institution work
- give an overall view of services offered to patients through the collaboration of all people involved in healthcare episodes
- enable the development of a richer professional practice in the region

5.3 Other partners in the project

The groups deemed "other partners" have specific information needs that must not be overlooked, given the significant role these groups play in the smooth implementation of the project.

- For journalists, focus the message on the added value the project brings to the population. The potential spin-off effects of the project may also be of interest to them.

- For community and volunteer groups, in addition to explaining the capitation project in detail, clearly identify the objectives of the project and restate that the basic conditions of the healthcare system will not change. In fact, certain questions raised by these groups in the past year have led to confusion between capitation and privatization. This false interpretation must be corrected as quickly as possible.

- The mayors of different municipalities and the members of parliament have not yet shown significant interest in the capitation project, but a reaction on their part is to be expected once we begin informing the population. In this case, it will be important to provide them with all of the necessary information.

6. Communication strategy

We propose a three-step communication strategy.

6.1 Step 1: Announce the launch of the capitation project

Initially, it will be important to update everyone's knowledge about the capitation project. We will initially answer the following questions: What is the capitation project? What are the objectives of such a project? How does this project affect the current situation in the RCM? This should stop rumours in their tracks and provide the population, institution personnel and partners with a minimum of information. The population will be kept informed through contacts with local weekly newspapers, i.e. *The Gleaner/La Source* and *Soleil du Saint-Laurent Valleyfield*.

In carrying out this first step, it is important to focus on certain measures. First, the capitation project must have a **visual identity** common to all communication tools. This will enable standardization of documents issued by different institutions as part of the project.

Second, all communications must be completely bilingual, given that the Haut Saint-Laurent RCM population is 62% Francophone and 35% Anglophone[3].

Finally, we recommend that throughout the project information be presented to institution personnel before being released to the population. Communicating information to employees before releasing it to the population shows them that they are privileged partners in the capitation project.

Further to this initial distribution of information, we must establish communication channels so as to answer the questions that will arise. The chosen methods must be simple and make the information as accessible as possible. Accordingly, we suggest implementing the following:

- For the population:
    - **A single telephone number** which people can call to obtain information about the services offered (new services offered, eligibility, accessibility, etc.).
- For institution personnel:
    - Provide the name of a person to whom questions about the capitation project may be addressed.

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[3] Data from Statistics Canada, 1996 census. The missing 3% includes respondents who speak both languages or who speak neither English nor French.

- For partners:
  - Provide the name and coordinates of the project spokesperson. The latter must have the necessary information and leeway to answer more detailed questions about the project or to refer the person to someone capable of doing so. The spokesperson must be able to answer adequately in both English and French.

6.2 Step 2: Promote the healthcare services offered in the region

To keep clients in the region, we propose informing the population about the healthcare services offered, specifically those that will be added as part of the capitation project. To maximize the visibility of these services, we propose holding individual launches for each of them, which will be publicized through press releases. Internally, various methods may be used to advertise these launches, including meetings, posters, in-house newsletters, etc.

6.3 Step 3: Ensure continuous communication throughout the project

During the project, the various publics will have to be kept regularly informed. It is particularly important to keep employees constantly informed so that they feel involved in a project that is functioning and progressing well. This will help motivate them. To do so, we propose using a monthly information newsletter to be distributed or displayed at the institutions. Such a newsletter would simultaneously and uniformly inform personnel at the various institutions, which would avoid the friction that arises when certain employees have information which their colleagues do not.

For the population, information will be distributed mainly through press releases. The media are an ideal channel through which to reach the population as they enjoy significant credibility. Regional weekly newspapers have a high readership, hence the importance of giving them a major role in communication activities.

7. Communication tools

To implement the communication strategy, the following communication tools will be necessary:

Tool	Description	Qty.
Corporate folder and brochure	• Describe the project in detail: Nature, objectives, history, key players, services, support, etc.	
Monthly newsletter	• Give the latest news on the capitation project • Mainly intended for institution personnel and other partners (mayors, community organizations and volunteers)	

We recommend avoiding extravagant communication tools as, given the budget restrictions in the healthcare sector, the public may perceive this type of communication expenditure as wasteful. It is better to rely on modest but tasteful methods.

The following pages present a more detailed description of the content of these two tools, i.e. the corporate folder and the monthly newsletter.

7.1 Corporate folder and brochure

Nature of the tool: Folder containing documents that give a complete overview of the capitation project. The focal point of the folder is a brochure describing the project and highlighting the participation of those involved. The folder will be printed in French and the brochure will be bilingual.

Target audience: Journalists, community organizations, mayors, physicians, scientific community, other government partners, etc.

Circulation: To be determined.

Content: The corporate folder will give a complete overview of the project. The key component of the folder is **a brochure** that could be laid out as follows:

- Pages 1, 2, 3, 4: General description of the project—key players, background, characteristics of the target population, goals, structure, partners, deadlines, organizational diagram.

- Pages 5, 6, 7, 8: Each page describes one of four sub-committees—members, services developed, accomplishments.

The content will be identical for the English portion of the brochure.

In addition to this brochure, the folder may contain other documents that draw up a portrait of the project:

- copies of the in-house newsletter
- letters of support for the project
- financial report
- press releases
- business cards

7.2 Monthly newsletter

Nature of the tool: Newsletter of approximately 2 pages, bilingual, published monthly.

Target audience: Personnel at the institutions involved in the capitation project and the project's main partners.

Circulation: To be determined.

Content: The newsletter gives an overview of what has happened in the field since the previous issue. The following is a summary of subjects that may be discussed:

- latest news about the capitation project re: launches, deadlines
- the population's reaction to the project
- encouragement and congratulations for the personnel and partners on their collaboration with the project
- summary results of the project evaluation
- spin-off effects of the project and planned developments
- impact of the project on the scientific community
- announcement re: hiring new personnel as part of the project

Photographs and illustrations will be included in the newsletter.

8. Communication activities

8.1 Step 1: Announce the launch of the capitation project

- Set up a telephone line for answering the population's questions
- Designate a resource person at each institution able to answer employees' questions
- Put together a press file, write press releases (key messages) and prepare spokespersons
- Meet with journalists at local weekly newspapers (*The Gleaner/La Source* and *Soleil du Saint-Laurent Valleyfield*) for the launch of the capitation project
- Send community groups and mayors a personalized letter announcing the launch of the capitation project and mentioning the name and coordinates of the project spokesperson; if possible, include the brochure
- If necessary, make presentations about the project to community organizations and mayors

8.2 Step 2: Describe the healthcare services offered in the region

- Present the new services to personnel at the institutions via posters, meetings and articles in the project newsletter
- Publish features articles about each of the new services in the local weekly newspapers
- If necessary, buy advertising space in local weekly newspapers to announce the services offered

8.3 Step 3: Ensure continuous communication throughout the project

- Send an information newsletter to institution personnel and key partners
- Hold periodic press conferences with representatives from local newspapers

9. Evaluation

To ensure our communication activities remain on target throughout the project, we propose assessing their impact by:

- analyzing the project's press coverage
- compiling calls to the information line

APPENDIX 6

Distribution and publications

DISTRIBUTION AND PUBLICATIONS

CONFERENCES

LOCATION	DATE	TARGET AUDIENCE	SPEAKER	SUBJECT
Université de Laval, Department of health management	November 21, 1998	Managers in training	Hung Nguyen, Assistant, Planning and development, Capitation project, RRSSSM	Capitation project in the Haut-Saint-Laurent RCM
DSPPÉ – RRSSSMontérégie	January 27, 1999	Physicians in training	Hung Nguyen, RRSSSM	Capitation project in the Haut-Saint-Laurent RCM
Press conference	March 22, 1999	Press and television	Jacques Saada, MNA for Brossard-LaPrairie, and Claude Boily, director general RRSSS–Montérégie	Announcement of the capitation project grant
Conference of the Association des CLSC et CHSLD du Québec	May 13 and 14, 1999	CLSC and CHSLD managers	Guy Deschênes, director general of Huntingdon CLSC Guy Rho, project director	Capitation project
Université de Montréal, Department of health management	May 6, 1999	Managers and physicians in training	Hung Nguyen, RRSSSM	Capitation project in the Haut-Saint-Laurent RCM
Montreal-Quebec City	4 times/year	Provincial committee	Hung Nguyen, RRSSSM	Discussion on capitation and integrated services in the province
DSPPÉ – RRSSSM	April 1, 2000	Physicians and health care professionals	Jean-Louis Denis, GRIS, Université de Montréal	Preliminary evaluation, capitation project
Barrie Memorial Hospital, Ormstown	April 26, 2000	Women's Auxiliary	Guy Rho, project director	Capitation project
Barrie Memorial Hospital, Ormstown	May 17, 2000	Conseil médical du Québec	Clinical services committee, committee director	Medical organization
Public affairs channel, cable 77	May 31, 2000	Population	Guy Rho, project director Guy Deschênes, director general, Huntingdon CLSC Hung Nguyen, RRSSSM Project DSI and managers	Broadcast on the Haut-Saint-Laurent RCM project
Press conference in the RCM	June 26, 2000	Population	Guy Rho, project director Claude Boily, director general, RRSSSM	Capitation project, an integrated delivery system
CKOD-Radio (Valleyfield)	July 28, 2000	Population	Guy Rho, project director Guy Deschênes, director general,	Capitation project

LOCATION	DATE	TARGET AUDIENCE	SPEAKER	SUBJECT
			Huntingdon CLSC	
Porto, Portugal CALASS Colloquium Latin Association for the Analysis of Health care Systems	September 21-23, 2000	Managers, decision-makers and researchers in health systems analysis	Hung Nguyen, RRSSSM Jean-Louis Denis, GRIS Claude Sicotte, GRIS	Integrated services
Submission to the Clair Commission on health and social services	September 27, 2000	Commissioners Public	Guy Deschênes, executive director, CLSC Huntingdon André Morin, interim executive director, Barrie Memorial Hospital	Brief presented by the RCM institutions involved in a trial project to implement integrated services
Continuing Medical Education Committee of the DSPPÉ in the RRSSSM	September 27, 2000	Employees of the Montérégie RHB Physicians and residents	Jean-Louis Denis, GRIS	Evaluation of the capitation project implementation
Association M.A.s in Health Administration, Université de Montréal (AMADASUM)	December 7, 2000	Health care and social services managers	Hung Nguyen, RRSSSM Jean-Louis Denis, GRIS	Capitation project intervention and evaluation
Quebec City RHB	February 12, 2001	Suzanne Boivin, head of integrated care implementation and her team	Guy Rho, project director	Haut-Saint-Laurent RCM project
FRSQ research focused on the provincial health care network (Trois-Rivières)	February 19, 2001	Mental health researchers	Hung Nguyen, RRSSSM Johanne Marois, Huntingdon CLSC	An integrated project in a rural setting "Haut-Saint-Laurent RCM project: Mental health aspect"
Ottawa Valley RHB	February 23, 2001	CLSC physicians group CLSC executive director RRSSSM executive director Public Health Director Regional Medical Director	Guy Rho, project director	How to proceed with a uniform implementation in a private office
Health and Welfare Council Renaissance Hotel, Montréal	March 2, 2001	Front-line managers and experts	Hung Nguyen, RRSSSM Linda Cazale, RRSSSM Gabrielle Tourigny, RRSSSM	Colloquium: "Following the debate on the future of the health care system… What do we do next?"
Ordre des infirmiers et infirmières du Québec Event: VIIth Colloquium of the Quebec Councils of Nurses	April 3 and 4, 2001	Members of hospital executive committees, nurses	Michelle Bigras, graduate nurse, Huntingdon Health Centre	Nurses' independent practice in nursing care clinics

LOCATION	DATE	TARGET AUDIENCE	SPEAKER	SUBJECT
HTF, Toronto	April 11, 2001	Managers Researchers	Guy Rho, project director	Presentation of the capitation project during a workshop organized by the HTF to present certain selected projects
HTF National Events Delta Hotel, Montréal	April 23, 2001	Decision-makers Suppliers Supplier organizations Researchers Experts and NGO	Guy Rho, project director Hung Nguyen, RRSSSM Michelle Bigras, nurse, Huntingdon Health Centre A.-P. Contandriopoulos, professor, Université de Montréal	Presentation of the capitation project during a workshop organized by the HTF to present certain selected projects
RRSSSM	May 4, 2001	Partners in the sub-regions of Longueuil and Sorel	Hung Nguyen and the RRSSSM team	Impact of the capitation project on the planning tool and new knowledge plan. Experiences with integrated systems.
HTF, Winnipeg	May 7 and 8, 2001	Managers Researchers	Guy Rho, project director Hung Nguyen, RRSSSM	Presentation of the capitation project during a workshop organized by the HTF to present certain selected projects
AHQ Conference	May 11, 2001	Administrators Managers	Luc Boileau, DSPPÉ director Guy Rho, project director Hung Nguyen, RRSSSM Yvon Brunelle, MSSS André-Pierre Contandriopoulos, GRIS Guy Deschênes, executive director CLSC Huntingdon	Workshop on integrated services, the capitation project
RRSSSM	June 2001	Physicians Professionals	Hung Nguyen and the RRSSSM team	Impact of the capitation project on the planning tool and new knowledge plan

BULLETINS – NEWSPAPERS

MEDIA	DATES	TARGET AUDIENCE	AUTHOR/REPORTER	SUBJECT
The Gleaner	1998	Population	Valérie Furcall	Careful management is key
Artère	November 1998	Health and social services administrators		Barrie Memorial Hospital – a new partnership
Le Soleil de Salaberry-de-Valleyfield	November 21, 1998	Population	Mario Pitre	Diabetes Clinic opens in Ormstown
Plein Soleil	Spring 1999	Population		Inauguration of the Barrie Memorial Hospital and Huntingdon CLSC Diabetes Clinic in Ormstown, Montérégie
Journal La Source	March 24, 1999	Population	Hugues Théoret, reporter	Federal government injects $3.2 million to set up a capitation project in the Haut-Saint-Laurent RCM
The Gleaner	December 1999	Population		Diabetes Clinic marks its first anniversary
Journal de Montréal	January 3, 2000	Population	Jérôme Dussault, reporter Guy Rho, project director	Health care budgets determined by number of residents
Le St-François	January 11, 2000	Population	Daniel Grenier	Pilot project for funding the Quebec health care system
Le Suroît Régional	January 12, 2000	Population	Marie-Claude Roy	Health budgets could be determined by population figure
Press release	June 26, 2000	Population of Ormstown and Huntingdon	Guy Rho, project director	Capitation project
Le St-François	August 9, 2000	Population	Daniel Grenier	A new integrated health and social services network based on capitation
Telephone interview with Jean–François Bégin	August 29, 2000		Luc Boileau, DSPPÉ director Guy Rho, project director	Capitation project
Information leaflets	September 25, 2000	Population	Guy Rho, project director	An integrated health and social services network

MEDIA	DATES	TARGET AUDIENCE	AUTHOR REPORTER	SUBJECT
Actualités	?	Population	Yvon Brunelle, MSSS	Funding the Quebec health system. Capitation: HMOs made in Quebec
Le Devoir	November 17, 2000	Population	Hung Nguyen, RRSSSM Linda Cazale, RRSSSM Jacques Fournier, CLSC	You said: "Integrated delivery system?" For a service network that gives power, resources and responsibility to the local community
The Gleaner	November 22, 2000	Population	Patrice Laflamme	*La Relève*, new respite resource for natural caregivers supporting a loved one with an Alzheimer's type cognitive disorder
La Presse, Actualités	January 20, 2001	Population	Martine Roux, reporter	Hospital synergy. An integrated services project in the Montérégie has kept patients happy for the past eighteen months.
Radio-Canada	January 18, 2001	Population	Stéphane Bureau, reporter	
TVA "Coup de Chapeau"	February 1, 2001	Population	Jean-François Léveillé, reporter	Diabetes Clinic – testimonials from users

MEDIA	DATES	TARGET AUDIENCE	AUTHOR/REPORTER	SUBJECT
Radio-Canada Dimanche-Magazine	February 25, 2001	Population	Christine Limoges, reporter Christiane Morin-Blanchet, consulting physician RRSSSM Thomas Vandor, family physician, Ormstown Health Centre Marie Goodall, nurses, Ormstown Health Centre Guy Rho, project director André-Pierre Contandriopoulos, GRIS	Integrated services and family medicine
Le Soleil, Salaberry-de-Valleyfield	August 19, 2000	Population	Patrice Laflamme	A new method for structuring health services for the population

UNPUBLISHED DOCUMENTS (in French)

- Capitation project: Regional orientations, 1997
- Population-based capitation model, 1997
- Capitation project in the Haut-Saint-Laurent RCM, 1997
- Research project submitted to the HTF, 1998
- Recommendations of the Clinical Services Committee, 1998-1999
- Reports from the firm Raymond, Chabot, Martin, 1999
- Bibeau, L., *Components used in drafting a communication plan. Capitation project in the Haut-Saint-Laurent RCM.* Work presented at the RRSSSM, January 1999
- GRIS, *Capitation project evaluation protocol*, October 1999
- Preliminary report, Phase 1, October 1999
- Savain, Rhoda, *Social marketing program for the Montérégie capitation project*. Internship report, October 1999
- Lafrenière , M., *Program and Implementation plan for ambulatory services projects*, March 2000
- Lamoureux, L., *Program and Implementation plan for mental health services projects*, March 2000
- Tourigny, G., *Program and Implementation plan for elderly services projects*, March and April 2000
- Donovan, D., *Program and Implementation plan for cardiovascular services projects*, March and April 2000
- Trudel, J., *Capitation project in the Haut-Saint-Laurent RCM*, Communications division, RRSSSMontérégie, April 2000
- Franco, A, Nguyen, H., Sicotte, C., *Computer system requirements and specification*, May 1, 2000
- Franco, A, Nguyen, H., Sicotte, C., Information system. Action plan, June 2000
- Nguyen, H., Donovan, D., Kingsley, N., Morin-Blanchet, C. *Medical structure in the Haut-Saint-Laurent RCM*, June 2000
- Nguyen, H., Tourigny, G., *Management Manual*, June 2000
- Application for project extension, March 2000
- Provisional report, December 2000
- Final report, March 31, 2001
- Cazale, Linda, Nguyen Hung and Fournier, Jacques (2001). "*You said integrated system?*" Health: For shock therapy!. MORAIS, Hélène, VENNE, Michel (advisors). Les Presses de l'Université Laval, pp. 81-86.

Minutes of the following meetings are also available: Steering Committee, Clinical Services Committee, Provincial Committee, Montérégie Regional Health Board internal committee

APPENDIX 7

Integrated database

INTEGRATED DATABASE

1. Summary

This project is part of an intervention focusing on information systems designed to support the local integrated services structure developed in the Haut-Saint-Laurent RCM. This project integrates the main sources of data on the clientele who use Quebec's health and social services system, the population of the RCM and the four control territories. The database thus formed will make it possible to compile information vital to the support of clinical functions, management and research as part of the integrated network.

The *integrated system* concept refers to the four types of mutually influencing integration—financial, administrative, clinical and informational. In the RCM project, the first two areas selected for integration are the clinical and informational areas. There is a mutual influence between clinical practice and information about patients. In fact, more complete information on a patient's clinical history will enable better implementation of clinical interventions aimed at offering better integrated management of the patient through various services. Moreover, knowledge of the patient's clinical history is fundamental to the practice of family medicine.

The type of management in capitation projects rests primarily on risk management. The promoters hope to make a financial gain following improvement in their management of health care services. This gain will be reinvested in the services system. To implement this type of management, the managers would need a unified patient file (inter-resources, inter-services and inter-professional) as a communication tool for managing care. In addition, this file should be directly available in a computer system connecting all service providers. This option was excluded from the project, in part because of the cost, and in part because of the context of streamlining the resources available at the start of the project.

In contrast, an intervention proposed in the informational area comprised two aspects: An exchange of clinical information system and an information system for analytical purposes (OLAP – On line analytical processing) which takes the form of an integrated database The clinical information exchange system having been presented in the report, the construction of the integrated database is explained here.

The main idea of the database is to store all of the information likely to be used in planning and evaluating the project. The integration of data for each individual is done on the basis of a single, anonymous identification code provided free of charge by the RAMQ.

Several administrative and technical difficulties were circumvented to finally produce this database. The results are impressive; on the one hand, almost all of the data used in the health care system has been brought together in a data warehouse, and on the other, the integration of the main files (medical acts, drugs, prostheses and orthoses, dentists, hospitalizations, CLSC) makes information available on some 200,000 people.

Preliminary analysis leads us to believe that this data will provide new knowledge that can influence the administrative, financial and clinical practice of new methods of health care structuring. However, an in-depth test run of this database cannot be done until Phase 2 of the project. A data update is also scheduled for 2003.

2. The needs

For the purposes of planning and evaluation, the information needs are as follows:

- What are the consumption profiles of socio-health care resources of the residents of the Haut-Saint-Laurent RCM? Under the capitation project, the local authorities charged with structuring the delivery system in the RCM will need this information in order to set priorities. This information will also be used by the evaluation team to analyze changes over time in the profiles of the use of health care and social services by the target population, based on incentives offered by the project.
- What are the historical clinical profiles of these tracer cases for the evaluation needs of the project: CVA, palliative care, schizophrenia and bipolar disorder, diabetes, COPD, angina and infarct?
- What are the channels and the utilization of clinical services of certain patients, namely those having need of services from several different providers or delivered in other regions? This information will make it possible to track patients through the places where they receive services and the time taken between the services required (how many times did the patient consult at a CLSC, hospital, physician's office, Emergency or even what are the medications prescribed). This information is useful in validating the degree of coherence for the management of patients with respect to known care protocols and eventually to intervene in the care process, for example, in the case of an elderly client with a hip fracture (inter-institution) or a client with cardiovascular disease (interregional).
- What is the cost associated with the profiles documented in the points above? This information is necessary to enable local authorities to manage their region's budget estimates. This information is also useful for integrated delivery system operations, central to the notion of capitation.

3. The project

The project consists in developing an information system regarding the patient and creating tools for distribution to health care professionals and physicians (clinical activities), to managers (patient follow-up activities and user profiles) and to researchers (evaluation protocol).

The project has been planned in two phases. The first phase consists in creating the pre-capitation integrated database, i.e. for 1997-1998 and 1998-1999, in the second phase, an update for the years associated with the implementation and the completion of the intervention in 1999-2000, 2000-2001 and 2001-2002. In total, data will be available for a period of five years.

Objectives pursued:

- ➢ Implementation of a database on residents of the Haut-Saint-Laurent RCM and the four control CLSCs, in large part through integration of existing client files.
- ➢ Production of information for managing and for the clinical committees of the local integrated services structure.
- ➢ Analysis of changes in mobility, retention and client characteristics.
- ➢ Estimation of costs of the various components in the supply and use of services.

4. The approach

The approach used consists in using as much information as possible in the existing information systems in Quebec before creating new systems. After surveying the existing files, the following were selected:

- MED-ÉCHO (hospitalization)
- APRDRG (hospitalization and costs)
- RAMQ – Medical services

- RAMQ – Pharmacy (drugs and costs)
- RAMQ – Orthoses and prostheses
- RAMQ – Dentists and optometrists
- Ambulance transportation
- Regional mechanisms for access to residential accommodation
- Death file
- Huntingdon CHSLD
- Huntingdon CLSC, Châteauguay CLSC, La Pommeraie CLSC/CHSLD, La Presqu'Île CLSC and Seigneurie de Beauharnois CLSC

Added to this are population data and financial data concerning the institutions. For each file, the desired data have been identified and a file submitted to the Access to Information Commission. This step guarantees the confidentiality of data. For example, each producer sends to the RAMQ a list of SINs (social insurance numbers) of patients at its institution. The RAMQ produces a list of anonymous codes corresponding to the list of SINs that it returns to the institution. Next, each institution copies the data requested according to the anonymous codes and sends it all to the researchers.

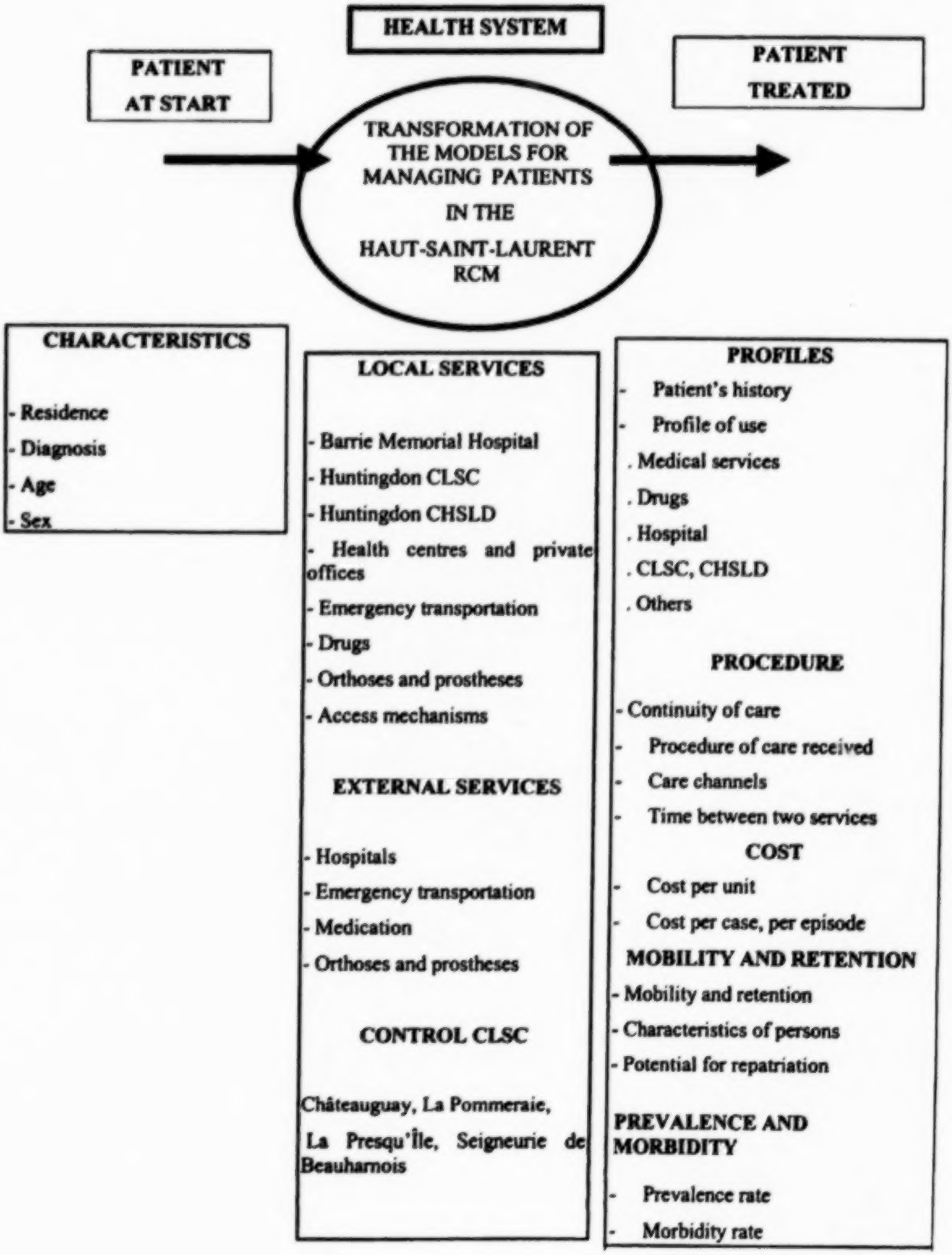
Accordingly, although the RAMQ and the institutions know the correspondence between the anonymous codes and the SINs, the researchers work solely with anonymous data. A technical action to guarantee the confidentiality has been submitted to the AIC.

The analysis framework on the following page illustrates the planned approach for the integrated database study. The patients seek and receive services within the Quebec public health care system. Over a five-year period, from 1998-1999 to 2001-2002, they have received or will receive various services which can be expressed by different **profiles**. Depending on the loss of autonomy and complexity of the case, the client will follow a **care process**, the complexity of which is adapted to his condition.

Costs associated with the care process and a dynamic is established between the local network and services outside the region which give rise to a mobility of the clients to be studied (**mobility and retention**).

Lastly, new entrants in the system (**prevalence**) and the total number of ill people (**morbidity**) are key factors that make it possible to predict the service needs and consumption. The analyses focus on five points: User profiles, care process, costs, mobility and retention, and prevalence and morbidity.

ANALYTICAL FRAMEWORK



HEALTH SYSTEM

PATIENT AT START

TRANSFORMATION OF THE MODELS FOR MANAGING PATIENTS IN THE HAUT-SAINT-LAURENT RCM

PATIENT TREATED

CHARACTERISTICS

- Residence
- Diagnosis
- Age
- Sex

LOCAL SERVICES

- Barrie Memorial Hospital
- Huntingdon CLSC
- Huntingdon CHSLD
- Health centres and private offices
- Emergency transportation
- Drugs
- Orthoses and prostheses
- Access mechanisms

EXTERNAL SERVICES

- Hospitals
- Emergency transportation
- Medication
- Orthoses and prostheses

CONTROL CLSC

Châteauguay, La Pommeraie, La Presqu'Île, Seigneurie de Beauharnois

PROFILES

- Patient's history
- Profile of use
  . Medical services
  . Drugs
  . Hospital
  . CLSC, CHSLD
  . Others

PROCEDURE

- Continuity of care
- Procedure of care received
- Care channels
- Time between two services

COST

- Cost per unit
- Cost per case, per episode

MOBILITY AND RETENTION

- Mobility and retention
- Characteristics of persons
- Potential for repatriation

PREVALENCE AND MORBIDITY

- Prevalence rate
- Morbidity rate

5. Development status

The development status of the integrated database includes a brief description of three components: Data pool, the temporal integration of care episodes and the standardized record for each client.

- **Data pool**

In this step, starting with the client base, data are integrated on the use of the following services:

- Medical services (medical acts)
- CLSC
- Pharmacy (drugs)
- APR-DRG (hospitalization and indicator of the NIRRU client load (relative level of intensity of resources used)
- Orthoses and prostheses
- Dentists
- Optometrists

These data are currently available for the years 1997-1998 and 1998-1999 for four CLSC territories (Huntingdon, Seigneurie de Beauharnois, La Presqu'Île and La Pommeraie). The Châteauguay CLSC could not be included as planned (data being insufficiently reliable). Other data, such as deaths, CHSLD, access mechanisms and ambulance transportation will be included in Phase 2 of the project.

- **Temporal integration of care episodes**

Data on the use of services included in the data pool mentioned above are integrated. To ensure consistency among data, three assumptions were developed.

First, all clients aged less than one year were excluded from the integrated database, the reason being the instability of these clients' SINs (absence of SIN, use of a parent's SIN, etc.).

Several ages may appear during an episode of care. The youngest age was used as it corresponds to the age at which the client entered the system.

A single place of residence (CLSC territory) for each client, annually, was assigned according to the following rule: Use the place of residence where the highest number of care episodes was identified. In other cases, priority was given to the place of residence on the CLSC file with respect to the RAMQ and ARP-DRG. For five CLSCs, 4.6 million episodes of care were processed. Of these, 83% had the same CSLC territory of residence—a very high level of consistency—and 17% of episodes were subject to the selection procedure mentioned above.

- **Standardized client record**

The standardized client record contains the following information:

- Single, anonymous identification of the client provided by the RAMQ
- Sex
- Only one age assigned to the client
- Only one residence code for the client
- Delivery location code (code of the institution or physician's municipality)

- District code of the institution's or physician's CLSC
- Year of use (1997-1998 or 1998-1999)
- Start date of services
- End date of services (does not apply to certain files, etc.: Drugs)
- Illness code (diagnostic code for medical care, DRG group for hospitalization, reason for CLSC intervention, other codes are 0)
- Code attributed to the type of use (code of act for medical care, drug code, primary operation code for hospitalization, CLSC activity centre)
- Total of actual (medical acts, drugs) or estimated (NIRRU or CLSC) costs

6. Results

The integrated database has been set up. The following table shows several statistics currently available on this database: Population of the various CLSC territories of residence, number of clients having used services, participation rate (derived from dividing the clients column by the population column) and number of care activities for clients having used the health care system. An initial cost estimation has been made, but remains to be validated.

Year	Residence	Clients	Activities	Population	Participation rate
1997		207,462	3,622,308	226,558	92
	Beauharnois	54,226	1,088,189	55,154	98
	Huntingdon	21,646	388,315	24,650	88
	La Pommeraie	45,859	813,317	49,705	92
	La Presqu'Île	85,731	1,332,487	97,049	88
1998		209,062	3,790,991	228,261	92
	Beauharnois	54,003	1,120,826	54,939	98
	Huntingdon	21,386	397,674	24,615	87
	La Pommeraie	46,137	870,236	49,954	92
	La Presqu'Île	87,536	1,402,255	98,753	89

However, an in-depth analysis of this database will be impossible without the second phase planned for the project. The analysis will be done in a perspective of improving the management of patients and in a capitation funding method, which promotes a more fluid operation between the region's health centres and public institutions, as well as a favourable use of light resources.

The data produced can provide encouragement for clinical services committees in a perspective of improving management by becoming aware of the actual channels of care. These data are also useful for motivating managers to change their practice and develop resources adapted to the new channels of care.

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CAPITATION PROJECT – AN INTEGRATED NETWORK OF CARE AND SERVICES

The team mandated to establish an integrated network of care and services in the MRC du Haut-Saint-Laurent faced a number of challenges: to integrate clinical first line, cardio-vascular and mental health services, and services for the elderly; to introduce nursing practices in private medical clinics; and to create a computer network linking private clinics and public institutions to resolve problems concerning public access to services in rural areas.

This document presents the principal stages of a pilot project which took place between the spring of 1998 and the spring of 2001. It was an innovative experiment designed to reorganize all services offered at the local level. The goal was to meet the health needs of the population through efficient coordination of care processes, so as to ensure continuity of the services provided to patients while reducing waiting periods between care episodes.

The project revealed that the integration of local services is just one of the conditions for success.

To achieve greater effectiveness and efficiency in the local system, "other integrations" must also be implemented to ensure a smooth linkage between the coordination of care and the allocation of resources.

At a time when integrated service management is the topic of the day, we are pleased to recommend this document which explores a number of interesting avenues concerning continuous case management, the coordination of clinical functions, and the impact of the reorganization of services at the local level. It should be noted that 25,000 people live in the territory in which this Project was carried out.

Good reading!

Guy Rho
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Gabrielle Tourigny
Linda Cazale
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Ana Franco